

Qualification Pack



Batching Plant Operator

QP Code: IES/Q0116

Version: 3.0

NSQF Level: 4

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



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IES/Q0116: Batching Plant Operator

Brief Job Description

A batching plant operator is responsible for making the concrete as per mix design supplied by the authorized concerned person. In addition to operating the plant, he will maintain adequate levels of all supplies and products.

Personal Attributes

This job requires the individual to be extremely careful and diligent and have high level of concentration. Hard work and strong work ethics courteous behavior with co-workers are equally desirable. He should also be physically agile, strong, have good eye sight and not suffer from colour-blindness.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [IES/N0146: Carry out Pre-operation checks on a batching plant](#)
2. [IES/N0147: Carry out batching plant operations](#)
3. [IES/N0148: Carry out maintenance and troubleshooting of the batching plant](#)
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/ 8114.0200 Batching Plant Operator

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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	Not Applicable
Pre-Requisite License or Training	NA
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/IS/IESC/06786
NQR Version	3.0

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IES/N0146: Carry out Pre-operation checks on a batching plant

Description

This unit insight into activities that need to be carried out Pre-operational checks to prepare the batching plant 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.** inspect the oil and filter on the air compressor, drain the tank manifolds and all water traps according to the manufacturer's instructions
- PC2.** check the oil level in all gear boxes, hydraulic unit, drum motor oil and auto-roll as per the procedures set by the manufacturer
- PC3.** ensure that the cement bin aeration system is in good working order
- PC4.** ensure that all bins and silos are full as per the production requirement
- PC5.** check the tension on all v-drive and other belts for wear and strain
- PC6.** ensure that liquid admixtures are stored as per the organizational standards to avoid contamination
- PC7.** ensure that the admixture dispensers are in proper working order
- PC8.** ensure that safety equipment is present and securely mounted as per the organizational standards
- PC9.** inspect the electric drive motors for wire damage and loose electrical fittings
- PC10.** before cleaning or chipping a mixer, make sure the motor is turned off
- PC11.** ensure weigh hoppers are emptied from the previous day's operation
- PC12.** examine the area under the plant for spillage and the source
- PC13.** ensure visual inspections are carried out for broken load cells, leaks, dust build-up in bag house, worn gates,
- PC14.** examine conveyors, boom scrapers and skip bucket for free running and wear and make adjustments as needed
- PC15.** ensure that all hoppers and doors are clean and in good working order
- PC16.** examine the central mixer blades, strippers, or arms for wear and tightness and and adjust as necessary
- PC17.** examine the tightness of all hydraulic connections as well as the condition of flexible tubing
- PC18.** check and remove any cement or concrete build up in the mixer
- PC19.** examine the dust seals on cement hoppers for wear

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- PC20.** make certain that all bearings and gears are adequately lubricated
- PC21.** look for structural cracks or damage in the mixing drum
- PC22.** all bolts and bearing set screws should be inspected and tightened
- PC23.** keep the generator running and keep the voltage and frequency at acceptable levels
- PC24.** check and confirm that all cabin controls, including electronic displays, sensors are in good working order
- PC25.** ensure that before work, the machine should have an empty running

Reporting and documentation

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

- PC26.** maintain a inspection/maintenance logbook to record all activities performed before starting the batching plant
- PC27.** 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 organization's breakdown and maintenance processes and guidelines
- KU2.** the performance standards & procedures followed in the company
- KU3.** reporting structure in the company
- KU4.** schedule for resolving the complaint/problem
- KU5.** location of tools
- KU6.** contact person in case of queries on procedure or equipments
- KU7.** location and procedure for trash storage and disposal
- KU8.** the company's safety policy
- KU9.** different types of batching plants, its uses and functions
- KU10.** introduction to weighing systems, aggregate storage systems, water systems, conveying systems and admix systems, as well as their application and operation
- KU11.** different equipment in batching plant such as conveyors, dust collector storage bins, weigh hoppers, water storage tanks, admix system, pumps, mixers, components, and functions.
- KU12.** equipment operating systems such as hydraulic systems, electrical system lubricating systems, pneumatic systems, mechanical systems and fuel systems
- KU13.** synthetic, non-synthetic oils and admixtures
- KU14.** materials tolerance according to IS
- KU15.** the importance of lubricating various components of a concrete batching plant
- KU16.** the position and operation of instrument panel / cabin control
- KU17.** earthing of plants to protect load cells, DC, instrument panel
- KU18.** visual inspections are performed ahead of time to detect damage, flaws, cracks, or leaks
- KU19.** basics of computer (such as MS Office, print etc) and their settings

Generic Skills (GS)

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

- GS1.** keep 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.** give clear instructions to co-workers, subordinates and other personnel
- GS4.** when talking with your supervisor, utilize the right technical words
- GS5.** decide when to conduct maintenance checks
- GS6.** work with supervisors/ team mates to carry out work related tasks
- GS7.** plan work according to the required schedule and location
- GS8.** deliver first-class service to ensure client satisfaction
- GS9.** identify immediate or temporary solutions to resolve mechanical issues
- GS10.** discover when to seek assistance from supervisor
- GS11.** identify cause and effect relations in his area of work
- GS12.** 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</i>	8	19	-	-
PC1. inspect the oil and filter on the air compressor, drain the tank manifolds and all water traps according to the manufacturer's instructions	1	1	-	-
PC2. check the oil level in all gear boxes, hydraulic unit, drum motor oil and auto-roll as per the procedures set by the manufacturer	1	1	-	-
PC3. ensure that the cement bin aeration system is in good working order	0.5	1	-	-
PC4. ensure that all bins and silos are full as per the production requirement	0.5	1	-	-
PC5. check the tension on all v-drive and other belts for wear and strain	0.5	1	-	-
PC6. ensure that liquid admixtures are stored as per the organizational standards to avoid contamination	0.5	0.5	-	-
PC7. ensure that the admixture dispensers are in proper working order	-	0.5	-	-
PC8. ensure that safety equipment is present and securely mounted as per the organizational standards	1	1	-	-
PC9. inspect the electric drive motors for wire damage and loose electrical fittings	0.5	0.5	-	-
PC10. before cleaning or chipping a mixer, make sure the motor is turned off	0.5	0.5	-	-
PC11. ensure weigh hoppers are emptied from the previous day's operation	-	0.5	-	-
PC12. examine the area under the plant for spillage and the source	-	0.5	-	-
PC13. ensure visual inspections are carried out for broken load cells, leaks, dust build-up in bag house, worn gates,	0.5	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. examine conveyors, boom scrapers and skip bucket for free running and wear and make adjustments as needed	-	1	-	-
PC15. ensure that all hoppers and doors are clean and in good working order	-	1	-	-
PC16. examine the central mixer blades, strippers, or arms for wear and tightness and adjust as necessary	-	1	-	-
PC17. examine the tightness of all hydraulic connections as well as the condition of flexible tubing	-	0.5	-	-
PC18. check and remove any cement or concrete build up in the mixer	0.5	0.5	-	-
PC19. examine the dust seals on cement hoppers for wear	-	0.5	-	-
PC20. make certain that all bearings and gears are adequately lubricated	0.5	0.5	-	-
PC21. look for structural cracks or damage in the mixing drum	-	0.5	-	-
PC22. all bolts and bearing set screws should be inspected and tightened	-	1	-	-
PC23. keep the generator running and keep the voltage and frequency at acceptable levels	-	1	-	-
PC24. check and confirm that all cabin controls, including electronic displays, sensors are in good working order	-	1	-	-
PC25. ensure that before work, the machine should have an empty running	0.5	0.5	-	-
<i>Reporting and documentation</i>	2	1	-	-
PC26. maintain a inspection/maintenance logbook to record all activities performed before starting the batching plant	1	0.5	-	-
PC27. if a fault is found that is outside of the scope of the position, notify the operator immediately	1	0.5	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	10	20	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0146
NOS Name	Carry out Pre-operation checks on a batching plant
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/N0147: Carry out batching plant operations

Description

This unit provides insight into activities that are required for operating a concrete batching plant

Scope

The scope covers the following :

- Batching plant operations
- Post-operation service of batching plant
- Safety during operations
- Reporting and documentation

Elements and Performance Criteria

Batching plant operations

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

- PC1.** plan and arrange the work in accordance with organisational norms
- PC2.** start genset and activate cross-over switch
- PC3.** check panel to ensure that controls are in correct position for starting
- PC4.** switch on the power to the control panel in accordance with the operational manual
- PC5.** enter and adjust values in computer system as per the mix design
- PC6.** start components in correct order through computer controls
- PC7.** ensure the production process and product complies with the appropriate quality procedures
- PC8.** materials like as aggregate, cement, water and admixtures are monitored and regulated
- PC9.** use the emergency stop button to disable all power to the batching plant in case of a crisis, as per operator manual
- PC10.** coordinate with ground personnel, loader operators and truck drivers
- PC11.** ensure that the truck is appropriately positioned under the chute to ensure that the drum is pointed in the right direction
- PC12.** use suitable controls to release batched concrete into delivery trucks/mixers

Post-operation service of batching plant

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

- PC13.** ensure that batches are produced on schedule and according to specifications
- PC14.** ensuring that shut-down processes are followed in a sequential manner
- PC15.** as per the operating handbook, verify that the feed is stopped using the relevant controls
- PC16.** properly clean the drum mixer in accordance with the operating instructions
- PC17.** externally wash the batching plant with water to remove any built-up deposits
- PC18.** do a visual examination of the equipment
- PC19.** ensure that the equipment is lubricated properly
- PC20.** ensure that any defective components are replaced as early as possible

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PC21. clean the rubber chute that discharges the cement into the mixer

Safety during operations

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

PC22. when working near the facility, use dust masks

PC23. make positive eye contact with other equipment operators at the site before crossing in front of or behind the equipment

PC24. wear all personal protective equipment (PPE) when sampling concrete and during all activities

Reporting and documentation

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

PC25. record input and output flow in accordance with the organization's preferred formats

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 criteria and processes followed in the company's

KU3. reporting structure in the company

KU4. schedule for resolving the complaint/problem

KU5. location of tools

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

KU7. location and procedure for trash storage and disposal, accordance to the company policy

KU8. safety policy of the company

KU9. different types of mixers such as - pan mixer - turbo pan mixer - single shaft/twin shaft compulsory mixer

KU10. different types of batching equipment such as manual, semi-automatic and automatic

KU11. different types of aggregate storage system

KU12. cement feeding techniques, fly ash into silos

KU13. minimum mixing time for each batch in accordance with the requirements

KU14. types of cements materials are used

KU15. silos number and size

KU16. different admixtures that are added to concrete mixes, such as aerators, retarders super plasticizers, accelerators, colors water reducers fiber mesh etc

KU17. types of control systems -manual/semi-automatic/automatic operations

KU18. basic tools such as screw driver, hammer, assorted wrenches, grease gun, hand scraper, tape measure, sledge hammer, multi-meter, shovel, etc

KU19. the location and working of the emergency stop button

KU20. basic batching plant operation procedures

KU21. response to emergencies eg correct way to use fire extinguisher

KU22. fundamental computer and Microsoft Office apps, as well as print settings

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KU23. different methods of feeding cement using manual hopper feeding , screw conveyor and blower compressor

Generic Skills (GS)

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

- GS1.** keep 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 worksite
- GS4.** give clear instructions to co-workers, subordinates and other personnel
- GS5.** when talking with your supervisor, utilize the right technical words
- GS6.** inspect the batching plant for any damage or defective components and take appropriate measures
- GS7.** depending on the machine's operation, decide when to start and stop the operations
- GS8.** work with supervisors/team members to complete job-related tasks
- GS9.** plan work according to the required schedule and location
- GS10.** deliver first-class service to ensure client satisfaction
- GS11.** report problems that you cannot resolve to appropriate authority
- GS12.** judge when to seek assistance from supervisor
- GS13.** identify sources of support that can be availed for problem solving for various kinds of problems
- GS14.** examine, evaluate and apply knowledge acquired from observation, experience, logic or communication in order to act efficiently

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Batching plant operations</i>	3	12	-	-
PC1. plan and arrange the work in accordance with organisational norms	0.5	0.5	-	-
PC2. start genset and activate cross-over switch	-	1	-	-
PC3. check panel to ensure that controls are in correct position for starting	0.5	1	-	-
PC4. switch on the power to the control panel in accordance with the operational manual	-	1	-	-
PC5. enter and adjust values in computer system as per the mix design	-	1	-	-
PC6. start components in correct order through computer controls	-	1	-	-
PC7. ensure the production process and product complies with the appropriate quality procedures	0.5	1	-	-
PC8. materials like as aggregate, cement, water and admixtures are monitored and regulated	0.5	2	-	-
PC9. use the emergency stop button to disable all power to the batching plant in case of a crisis, as per operator manual	-	1	-	-
PC10. coordinate with ground personnel, loader operators and truck drivers	0.5	0.5	-	-
PC11. ensure that the truck is appropriately positioned under the chute to ensure that the drum is pointed in the right direction	0.5	1	-	-
PC12. use suitable controls to release batched concrete into delivery trucks/mixers	-	1	-	-
<i>Post-operation service of batching plant</i>	3	9	-	-
PC13. ensure that batches are produced on schedule and according to specifications	1	1	-	-
PC14. ensuring that shut-down processes are followed in a sequential manner	1	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. as per the operating handbook, verify that the feed is stopped using the relevant controls	-	1	-	-
PC16. properly clean the drum mixer in accordance with the operating instructions	-	1	-	-
PC17. externally wash the batching plant with water to remove any built-up deposits	-	1	-	-
PC18. do a visual examination of the equipment	0.5	1	-	-
PC19. ensure that the equipment is lubricated properly	0.5	1	-	-
PC20. ensure that any defective components are replaced as early as possible	-	1	-	-
PC21. clean the rubber chute that discharges the cement into the mixer	-	1	-	-
<i>Safety during operations</i>	3	3	-	-
PC22. when working near the facility, use dust masks	1	1	-	-
PC23. make positive eye contact with other equipment operators at the site before crossing in front of or behind the equipment	1	1	-	-
PC24. wear all personal protective equipment (PPE) when sampling concrete and during all activities	1	1	-	-
<i>Reporting and documentation</i>	1	1	-	-
PC25. record input and output flow in accordance with the organization's preferred formats	1	1	-	-
NOS Total	10	25	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0147
NOS Name	Carry out batching plant operations
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/N0148: Carry out maintenance and troubleshooting of the batching plant

Description

This unit provides insight into activities that are required for performing routine maintenance and troubleshooting on the batching plant.

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.** tracking plant operation hours in accordance with organizational standards allows you to determine the best service schedule
- PC2.** carry out basic cleaning tasks in the control room
- PC3.** lubricate all bearings including head and tail pulleys on all conveyors, head and tail bearing on cement feeder screws wheel bearing supports on turn head, aggregate gate pivot points etc
- PC4.** inspect and /or adjust all belt wipers
- PC5.** all air filters on the air compressor and aeration blowers should be cleaned
- PC6.** adjust tension of the chain and scoops unit

Basic diagnostics and troubleshooting

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

- PC7.** before doing any maintenance, switch off the mains power at the panel
- PC8.** keep all panels under shelter, water should not enter the control panels
- PC9.** ensure that the mixer is stopped before making any adjustments
- PC10.** complete timely and legibly daily/ weekly maintenance sheets as provided by the company
- PC11.** ensuring that defective parts are replaced immediately
- PC12.** during each oil change, clean the magnetic oil plugs
- PC13.** while troubleshooting, be certain that the proper tools are utilized
- PC14.** diagnose the problem
- PC15.** assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel
- PC16.** in the workplace, trash should be handled and disposed of in accordance with environmental regulations

Documentation and reporting

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

- PC17.** adhere to the reporting procedures established by the employer
- PC18.** complete all documentation in the prescribed standards in a timely manner
- PC19.** report and escalate problems/ incidents as required in a timely manner

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 company's performance criteria and processes
- KU3.** reporting structure in the company
- KU4.** schedule for resolving the complaint/problem
- KU5.** location of tools
- KU6.** contact person in case of queries on procedure or equipments
- KU7.** location and process for storage and disposal of waste material
- KU8.** safety policy of the company
- KU9.** the organization's breakdown and repair processes and guidelines
- KU10.** basic tools, such as a screw driver, hammer, wrenches, self-locking pliers, grease gun, multi-meter and so on
- KU11.** pneumatics and hydraulic systems fundamentals
- KU12.** various lubricants and their applications
- KU13.** understand instrument panel, communication devices, their location and operation
- KU14.** conveyor systems, components such as belts, rollers, reducer gear box, electrical drive system, their location and function
- KU15.** types of load cell
- KU16.** assemble system components like as pumps, tanks and flow meters, as well as their positions and functions
- KU17.** basic electrical functioning and repairs
- KU18.** if you have any questions about the procedure or the goods, please contact this individual
- KU19.** location and procedure for trash storage and disposal
- KU20.** type of earthing and their application

Generic Skills (GS)

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

- GS1.** keep 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.** give clear instructions to co-workers, subordinates and other personnel
- GS4.** when talking with your supervisor, utilize the right technical words
- GS5.** decide when to conduct maintenance checks

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- GS6.** evaluate the decision and conduct basic trouble shooting
- GS7.** work with supervisors/team members to complete job-related tasks
- GS8.** plan work according to the required schedule and location
- GS9.** before using a machine, schedule routine maintenance on a daily basis
- 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 sources of support that can be availed for problem solving for various kinds of problems
- GS14.** examine, evaluate and apply knowledge acquired from observation, experience, logic or communication in order 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	5	-	-
PC1. tracking plant operation hours in accordance with organizational standards allows you to determine the best service schedule	0.5	1	-	-
PC2. carry out basic cleaning tasks in the control room	0.5	1	-	-
PC3. lubricate all bearings including head and tail pulleys on all conveyors, head and tail bearing on cement feeder screws wheel bearing supports on turn head, aggregate gate pivot points etc	1	1	-	-
PC4. inspect and /or adjust all belt wipers	-	1	-	-
PC5. all air filters on the air compressor and aeration blowers should be cleaned	-	0.5	-	-
PC6. adjust tension of the chain and scoops unit	-	0.5	-	-
<i>Basic diagnostics and troubleshooting</i>	3	7	-	-
PC7. before doing any maintenance, switch off the mains power at the panel	-	0.5	-	-
PC8. keep all panels under shelter, water should not enter the control panels	0.5	0.5	-	-
PC9. ensure that the mixer is stopped before making any adjustments	0.5	0.5	-	-
PC10. complete timely and legibly daily/ weekly maintenance sheets as provided by the company	1	0.5	-	-
PC11. ensuring that defective parts are replaced immediately	0.5	0.5	-	-
PC12. during each oil change, clean the magnetic oil plugs	0.5	0.5	-	-
PC13. while troubleshooting, be certain that the proper tools are utilized	-	1	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. diagnose the problem	-	0.5	-	-
PC15. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	-	0.5	-	-
PC16. in the workplace, trash should be handled and disposed of in accordance with environmental regulations	-	2	-	-
<i>Documentation and reporting</i>	2	1	-	-
PC17. adhere to the reporting procedures established by the employer	-	1	-	-
PC18. complete all documentation in the prescribed standards in a timely manner	1	-	-	-
PC19. report and escalate problems/ incidents as required in a timely manner	1	-	-	-
NOS Total	7	13	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	IES/N0148
NOS Name	Carry out maintenance and troubleshooting of the batching plant
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

Qualification Pack

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

Qualification Pack

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
NSQC 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

Qualification Pack

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	-	-

Qualification Pack

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	31/03/2025
NSQC Clearance Date	31/03/2022

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.

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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/N0146.Carry out Pre-operation checks on a batching plant	10	20	-	-	30	20
IES/N0147.Carry out batching plant operations	10	25	-	-	35	30
IES/N0148.Carry out maintenance and troubleshooting of the batching plant	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	52	98	-	-	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

Qualification Pack

Glossary

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

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