





## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**INFRASTRUCTURE EQUIPMENT SKILL COUNCIL**

for the

**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/ Qualification Pack: 'Junior Batching Plant Operator' QP No. 'IES/ Q 0117 NSQF Level 3'

Date of Issuance: October 1<sup>st</sup>, 2016

Valid up to: April 30<sup>th</sup>, 2018



Authorized Signatory  
(Infrastructure Equipment Skill Council)

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# Junior Batching Plant Operator

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Junior Batching Plant Operator”, in the “Infrastructure Equipment” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Junior Batching Plant Operator</b>		
<b>Qualification Pack Name &amp; Reference ID</b>	IES/Q0117		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	
<b>Pre-requisites to Training</b>	Preferably Class 8th Standard Certification Training in Batching Plant Operations preferred Preferably 2 years experience as 'helper' in batching plant operations		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• <b>Assist in carrying out pre-operation checks on a batching plant.</b> General introduction to batching plants, basic working of various components sections, engine, hydraulic and electrical systems, operational controls and instrument panel, preparing machine and related systems for operations</li> <li>• <b>Assist in operating a batching plant.</b> Properties of materials cement and aggregates, starting of transit mixer, loading of materials, monitoring and regulating mixing, discharging of concrete, shutting down the plant; post-operative checks</li> <li>• <b>Assist in carrying out regular maintenance of a batching plant.</b> General maintenance procedures and periodic service schedule; common faults and their diagnosis; reports and documents.</li> <li>• <b>Comply with worksite health and safety guidelines.</b> Health, safety and environment policies; personal protective equipment, fire-fighting equipment, basic first aid for common injuries at work site</li> </ul>		



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Assist in checking all fluid levels in the engine, hydraulic &amp; water systems; top up where necessary</li> <li>Check all V-drive and other belts for tension, wear and tear.</li> <li>Check conveyors, boom scrapers and bucket elevators for free running.</li> <li>Fill all bins and silos as per instructions.</li> <li>Store the admix as per instructions and check dispensers are functional.</li> <li>Empty the weigh hoppers of previous days operations.</li> <li>Check all hoppers and doors for cleanliness and smooth functioning.</li> <li>Remove cement and concrete build-up in the mixer and clean.</li> <li>Inspect all greasing points and ensure lubrication.</li> <li>Check all electrical wiring for damage and fitting.</li> <li>Check all controls, gauges, lights and horns are functional.</li> <li>Ensure safety equipment in place before operating the plant</li> <li>Assist in maintaining a log book to record all actions done before starting.</li> </ul>	
2	<p><b>Assist in operating a batching plant.</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 26:00</p> <p><b>Corresponding NOS Code</b> IES/N0129</p>	<p><b>Organisational Context: Acquire working knowledge of the following:</b></p> <ul style="list-style-type: none"> <li>Procedures and guidelines related to breakdown &amp; maintenance services.</li> <li>Location of tools and equipment and procedure for issue and return.</li> <li>Safety policy of the organisation and emergency drills.</li> </ul> <p><b>Technical Knowledge. Understand the fundamentals of the following:</b></p> <ul style="list-style-type: none"> <li>Specs and features/performance/output of the batching plant.</li> <li>Type and grade of cement, aggregates and admixture.</li> <li>Feeding system into silos.</li> <li>Starting procedure, basic operations and monitoring systems.</li> <li>Stopping procedure including emergency stop button</li> <li>Identification and correct usage of basic tools.</li> <li>Various hand signals, safety &amp; emergency signs at project site.</li> </ul>	<ul style="list-style-type: none"> <li>Scaled Model of Batching Plant for theory sessions</li> <li>Live Batching Plant at nearby project site for practical sessions</li> <li>Adequate stocks of cement, admixture and other aggregates.</li> <li>Class room with audio-video system</li> <li>Manufacturers O and M Manual &amp; Video</li> <li>Safety video</li> <li>PPE Items &amp; Safety Gear</li> </ul>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p><b>Skills - Core &amp; Professional. Acquire the ability to:</b></p> <ul style="list-style-type: none"> <li>In addition to core and generic skills listed above;</li> <li>Plan maintenance &amp; servicing keeping operational needs in mind.</li> </ul> <p><b>Performance Criteria. Execute the following tasks and procedures:</b></p> <ul style="list-style-type: none"> <li><b>Routine Maintenance:</b> Wash &amp; clean the plant externally to remove deposits</li> <li>Clean drum mixer internally as per instructions.</li> <li>Clean air filter, replenish lubes and coolants as necessary</li> <li>Lubricate/grease all the moving joints/pins and pivot points.</li> <li>Assist in basic housekeeping activities in the control room.</li> <li><b>Basic Trouble Shooting:</b> Turn off the mains power from panel before carrying out maintenance activity. Assist in diagnosing the defect/problem and rectify; if need be seek advice from supervisor.</li> <li><b>Documentation &amp; Reporting:</b> Assist in maintaining records/documents.</li> <li>Report defects and problems in time and escalate as necessary</li> </ul>	
4	<p><b>Comply with Worksite Health and Safety Guidelines</b></p> <p><b>Theory Duration</b> (hh:mm) 06:00</p> <p><b>Practical Duration</b> (hh:mm) 12:00</p> <p><b>Corresponding NOS Code</b> IES/N7601</p>	<p><b>Organisational Context. Acquire working knowledge of the following:</b></p> <ul style="list-style-type: none"> <li>Health, safety, environmental (HSE) policies and guidelines of the company &amp; their importance</li> <li>Contact details of personnel responsible for HSE related matters &amp; in case of emergencies.</li> <li>Location of first aid room / station and assembly points.</li> <li>Reporting channel and documentation procedure for all HSE related matters.</li> </ul> <p><b>Technical Knowledge. Understand the fundamentals of the following:</b></p> <ul style="list-style-type: none"> <li>OEMs guidelines for health, safety and security requirements.</li> <li>Types, use and importance of Personal Protective Equipment (PPE)</li> <li>Types of common hazards and risks at worksite and preventive measures.</li> </ul>	<ul style="list-style-type: none"> <li>Scaled Model of Batching Plant for theory sessions</li> <li>Live Batching Plant at nearby project site for practical sessions</li> <li>Class room with audio-video system</li> <li>Organisation's ESH / Safety video</li> <li>PPE Items &amp; Safety Gear</li> <li>Firefighting equipment &amp; Charts</li> <li>First Aid Kit and Charts</li> </ul>







<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>Junior Batching Plant Operator</b>
<b>Qualification Pack</b>	<b>IES/Q 0117 Version 1.0</b>
<b>Sector Skill Council</b>	<b>Infrastructure Equipment</b>

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for Qualification Pack has 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.
2	The assessment of the theory/knowledge will be based on written test/viva or both while skill test shall be hands on practical. Behaviour and attitude will be assessed while performing the assigned task.
3	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 centres (as per assessment criteria below)
4	To pass the Qualification Pack, every trainee should score a minimum of 40% in each NOS and 50% aggregate. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification pack.

Assessment Outcomes	Assessment Criteria for the outcome	Total Mark	Marks Allocation		
			Out of	Theory	Skills Practical
1. IES/N0128_Assist in carrying pre-operation checks on a batching plant	PC1. Assist in inspecting oil and filter on air compressor, drain tank manifolds and all water traps as per the procedures set by the manufacturer	<b>35</b>	2	1	1
	PC2. Check the oil level in all gear boxes, hydraulic unit, drum motor oil and auto-roll as per instructions from the operator/supervisor		1	0	1
	PC3. Fill all the bins and silos as per instructions from the operator/supervisor		2	1	1
	PC4. Check for tensions on all V-drive belts and other belts for wear and tear as per the instructions from the operator/ supervisor		1	0	1







	PC8.Blow clean all air filters on air compressor and aeration blowers as per instructions from the operator/ supervisor		1	0	1
	PC9.Adjust tension of the chain and scoops unit as per instructions from the operator/ supervisor		1	0	1
	PC10.Turn off the mains power from panel completely before carrying out maintenance work		1	0	1
	PC11.Replace the defective parts are replaced immediately as per instructions from the operator/ supervisor		1.5	1	0.5
	PC12.Clean magnetic oil plugs during each oil change as per instructions from the operator/ superviso		1.5	0.5	1
	PC13.Handle and dispose waste based on environmental guidelines at the work place		1	0	1
	PC14.Follow reporting procedures as laid down by the employer		2	1	1
	PC15.Report and escalate problems/ incidents as required in a timely manner		1.5	0.5	1
		<b>Total</b>	<b>20</b>	<b>6</b>	<b>14</b>
4. IES/N7601_Comply with worksite health and safety guidelines	PC1. Comply with safety, health, security and environment related regulations/ guidelines at the work site	<b>15</b>	2	1	1
	PC2.Use Personal Protective Equipment (PPE) and other safety gear as applicable to the equipment and the worksite instructions form the operator/ supervisor		1	0	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		2	1	1
	PC4. Carry out operations as per the manufacturer's and worksite related health and safety guidelines		1	0	1
	PC5. Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines		3	1	2
	PC6. Operate various grades of fire extinguishers, as applicable		1	0	1
	PC7. Support in administering basic first aid and report to concerned team members, as required, in case of an accident		2	1	1
	PC8. Support in administering basic first aid and report to concerned team members, as required, in case of an accident		1	0	1
	PC9. Record and report details related to operations, incidents or accidents, as applicable		2	1	1
		<b>Total</b>	<b>15</b>	<b>5</b>	<b>10</b>