



# Model Curriculum

## 1. Foreman Concrete

**SECTOR: Construction**  
**SUB-SECTOR: Real Estate and Infrastructure Construction**  
**OCCUPATION: Masonry**  
**REF ID: CON/Q0110, V1.0**  
**NSQF LEVEL: 5**





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# Foreman Concrete

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Foreman Concrete”, in the “Construction” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Foreman Concrete</b>		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	CON/Q0110, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	23-05-2017
<b>Pre-requisites to Training</b>	Preferably 10th Standard with 8 years site experience in same occupation for non-trained worker and 3 years site experience as a certified Mason Form Finished and Special Concrete for trained worker.		
<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>Gain Insight into the job role of Foreman concrete:-</b> Introduction to the job role, its career progression ,and roles and responsibilities</li> <li>• <b>Read and interpret working drawing, concrete specifications and standards for concreting works</b> –Read, understand and interpret the working drawing for concreting works. Understand details from concrete specifications and standards for concreting work</li> <li>• <b>Check and ensure completion of preparatory works prior to concreting :-</b> Carry out checks to ensure completion of preparatory works prior to concreting works</li> <li>• <b>Direct and monitor the execution of concreting works as per specifications and standard practices:-</b> Carry out checks, monitor and direct the execution of concreting works</li> <li>• <b>Plan, arrange and manage resources for execution of relevant work:-</b> Plan the work as per scope of work and arrange manpower, tools and equipment for execution of work</li> <li>• <b>Work effectively in a team to deliver desired results at the workplace</b> – Develop/ promote team working and coordinate with different trade personnel</li> <li>• <b>Plan and organize work to meet expected outcomes –</b> Introduction to preparation of work schedule, resource and manpower allocation</li> <li>• <b>Supervise, monitor and evaluate performance of subordinates at workplace</b> – Learn and practice method of motivating and guiding subordinates to get the assigned task done as per desired quality and productivity norms</li> <li>• <b>Manage workplace for safe and healthy work environment</b> – Learn and observe applicable safe work practices and environmental norms, relevant to construction Concrete.</li> </ul>		

This course encompasses 8 out of 8 National Occupational Standards (NOS) of “Foreman Concrete” Qualification Pack issued by “Construction Skill Development Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Introduction</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p>	<p><b>Introduction: -</b></p> <ul style="list-style-type: none"> <li>• Role description/ functions of the job role</li> <li>• Expected personal attributes from the job role of foreman concrete</li> <li>• Brief description about course content, mode of learning and duration of course</li> <li>• Future possible progression and career development provisions on completion of the course</li> <li>• Soft skills as applicable to communication, decision making and personal behavior</li> </ul>	<p><u>infrastructural requirements</u></p> <ol style="list-style-type: none"> <li>1. classroom having sitting capacity of 30 trainees</li> <li>2. blackboard</li> <li>3. Laptop</li> </ol>
2	<p><b>Read and interpret working drawings, concrete specification and standards for concreting works</b></p> <p><b>Theory Duration</b> (hh:mm) 40:00</p> <p><b>Practical Duration</b> (hh:mm) 64:00</p> <p><b>Corresponding NOS Code</b> CON/N0129</p>	<p><b>Theory :-</b></p> <ul style="list-style-type: none"> <li>• Terminology used in concreting works</li> <li>• Different architectural drawing and specifications for concreting works.</li> <li>• Procedure to read plan, elevation and sectional drawings</li> <li>• principals involved in reading and interpreting various relevant drawings</li> <li>• read and interpret drawing for concreting works and convert them to simple hand sketch</li> <li>• Simplified sketch preparation from the architectural drawings</li> <li>• Work schedule for masonry, bar bending, concreting, scaffolding and shuttering carpentry works</li> <li>• Standards and specifications for execution of works.</li> <li>• Manufacturer’s specification and work method statement for concreting works.</li> <li>• Schedule and scope of concreting works</li> <li>• Tools and equipment used for concreting works</li> </ul> <p><b>Demonstration/ Practical :-</b></p> <ul style="list-style-type: none"> <li>• Demonstrate reading &amp; understanding of details like location, concrete grade, pour area, pouring volume and reinforcement detail from concreting works drawings</li> <li>• Demonstrate reading &amp; understanding details from schedule of concreting work</li> <li>• Demonstrate reading &amp; understanding specification and standards provided for concreting works</li> <li>• Demonstrate reading &amp; understanding of operational standards /manufacturer’s specification of all relevant concreting tools and equipment</li> </ul>	<ol style="list-style-type: none"> <li>1. classroom having sitting capacity of 30 trainees</li> <li>2. blackboard</li> <li>3. pencil</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Demonstrate reading &amp; understanding of method statement for execution of concreting work</li> <li>• Demonstrate reading &amp; understanding of manufactures specification for operation of power tools</li> <li>• Demonstrate reading &amp; understanding of standard technical specification within scope of work</li> <li>• Calculate quantity of materials, time and resources required from relevant schematic working drawings</li> <li>• Demonstrate process to convey work to workman by making a simplified sketch</li> </ul>	
3	<p><b>Check and ensure completion of preparatory works prior to concreting</b></p> <p><b>Theory Duration</b> (hh:mm) 88:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up) 136:00</p> <p><b>Corresponding NOS Code</b> CON/N0130</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>• various structural drawings relevant to concreting works</li> <li>• basic principles of measurement, arithmetic along with simple geometry</li> <li>• methodology for estimation of required resource and material for concreting works</li> <li>• standard specifications and standard tolerance levels for of concreting work</li> <li>• difference and comparison between pre cast and in situ concreting works</li> <li>• appropriate proportions for the mixing of concrete to ensure consistency</li> <li>• appropriate techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, leveling and finishing)</li> <li>• methodology for checking line ,level and alignment for various concreting works</li> <li>• methodology of concreting works</li> <li>• different mix proportions for concrete</li> <li>• knowledge of cover to reinforcement with respect to size of reinforcement</li> <li>• knowledge of different type of vibrators, their influence area and use</li> <li>• knowledge of construction and expansion joints</li> <li>• how to inspect shoring and bracing of concrete forms</li> <li>• fixing of pump line for concrete flow</li> <li>• knowledge of different type on concrete pumps with respect to head and flow of concrete</li> <li>• preventive and corrective action to ensure the completion of preparatory works prior to concreting</li> </ul> <p><b>Demonstration/ Practical (D/P): -</b></p>	<p>The practical aspect of training (on job training) is to be carried out at a construction site where mechanical concreting works are being carried out.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Demonstrate statutory compliances to be maintained during concreting works</li> <li>• Demonstrate preparation of detailed work plan execution of concreting work at construction site/yard</li> <li>• Demonstrate checks to be carried out to ensure setting out for concreting work is as per the approved drawings</li> <li>• Demonstrate checks to be carried out to ensure working platforms, hand rails and access stairs are safe for working</li> <li>• Demonstrate checks to be carried out to ensure workplace is clear of debris and guard rails, safety nets &amp; kerb boards are in place</li> <li>• Demonstrate checks to be carried out to ensure the concrete used is prepared in the specified proportions within the specified workability in case of manual mixing of concrete</li> <li>• Carry out checks for confirming grade of concrete as per use</li> <li>• Carry out inspection of the formwork formwork/molds for gaps/misalignment of reinforcement/cover</li> <li>• Carry out inspection of formwork for leakage prior to concreting</li> <li>• Carry out inspection of formwork to ensure its clean prior to concreting</li> <li>• Carry out inspection of shoring and bracing of concrete forms to ensure their stability during pour</li> <li>• Demonstrate route required and position of poring of concrete in formwork</li> <li>• Carry out inspection of fixing and setting of pump line ,machinery for pouring of concrete</li> <li>• Carry out inspection of pumping of concrete.</li> <li>• Demonstrate method of providing instruction to subordinates for use of suitable type of pump w.r.t the discharge and head of concrete</li> <li>• Demonstrate documentation and recording of details of the concreting works covering grade of concrete, area and volume of pour</li> <li>• Demonstrate documentation and recording of details of number of workers ,tools and equipment deployed for work and achieved productivity</li> </ul>	
4	<b>Direct and monitor the execution of concreting works</b>	<u><b>Theory:</b></u> <ul style="list-style-type: none"> <li>• various structural drawings relevant to concreting works</li> </ul>	The practical aspect of training (on job training) is to be

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>as per specifications and standard practices</b></p> <p><b>Theory Duration</b> (hh:mm) 92:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)</p> <p>148:00</p> <p><b>Corresponding NOS Code</b> CON/N0131</p>	<ul style="list-style-type: none"> <li>• basic principles of measurement, arithmetic along with simple geometry</li> <li>• methodology for estimation of required resource and material for concreting works</li> <li>• standard specifications and standard tolerance levels for all aspects of concreting work (including pouring, screening, leveling and finishing)</li> <li>• difference and comparison between pre cast and in situ concreting works</li> <li>• appropriate proportions for the mixing of concrete to ensure consistency</li> <li>• appropriate techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, leveling and finishing)</li> <li>• methodology for checking line ,level and alignment for various concreting works</li> <li>• methodology of concreting works in horizontal, vertical and inclined surface</li> <li>• different mix proportions for concrete</li> <li>• knowledge of cover to reinforcement with respect to size of reinforcement</li> <li>• knowledge of different type of vibrators, their influence area and use</li> <li>• knowledge of construction and expansion joints</li> <li>• Process of inspecting shoring and bracing of concrete forms</li> <li>• Process of fixing of pump line for concrete flow</li> <li>• knowledge of different type on concrete pumps with respect to head and flow of concrete</li> <li>• different type of high quality concrete finish</li> <li>• sequence of pour of concrete</li> <li>• variation of slump w.r.t rate of pour</li> <li>• different type of vibrators used(internal/external vibrators),their accessibility and influence area</li> <li>• Concrete vibration in congested areas</li> <li>• knowledge of Construction joints/cold joints</li> <li>• curing technique of form finished concrete</li> <li>• knowledge of self-compact concrete</li> <li>• initial, final setting of concrete and their checking</li> <li>• correct positioning of the pump hose when pumping the SCC</li> </ul>	<p>carried out at a construction site where specialised concreting works like hot / cold weather concreting is being carried out.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site.</p>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• methodology for hot/cold weather concreting works</li> <li>• major risks associated with hot and cold weather concrete pouring</li> <li>• knowledge of wind breaks, wind velocity</li> <li>• different type &amp; use of evaporative retarder/anti-freeze compound</li> <li>• various types of defects in concrete</li> <li>• different method of repair of concrete</li> <li>• methods of curing of concrete</li> <li>• preventive and corrective action to ensure that the concreting work meets the quality requirements</li> </ul> <p><b><u>Demonstration/ Practical:</u></b></p> <ul style="list-style-type: none"> <li>• Demonstrate visual assessment of the workability and usability of concrete mix</li> <li>• Discard detrimental concrete mix</li> <li>• Carry out inspection of the pumping line</li> <li>• Instruct sub-ordinates and suggest method for pouring, leveling and finishing of concrete as per standard practices and specifications</li> <li>• Carry out inspection and conduct checks for pouring height of concrete ,type of vibrator used in concreting work</li> <li>• Carry out checks to concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness/finish</li> <li>• Carry out checks to ensure leveling of edges and corners within tolerance levels</li> <li>• Demonstrate monitoring of groove cutting for expansion/contraction joints</li> <li>• Carry out checks to ensure appropriate finishing of concreted surface id done as per specifications</li> <li>• Carry out synchronization of all concreting activities to ensure rapid placement and compaction of concrete with respect to the setting time of concrete in case of form finished structure.</li> <li>• Monitor curing of concrete by ensuring marking of concreting date and ample watering of concreting structure</li> <li>• Demonstrate monitoring of concreting activities in hot/cold weather conditions by checking the following               <ul style="list-style-type: none"> <li>❖ Wind, air ,concrete temperature and humidity</li> <li>❖ Schedule of concreting in accordance with the temperature</li> </ul> </li> </ul>	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>change in day and night as per hot/cold weather concreting</p> <ul style="list-style-type: none"> <li>❖ Provision of sunshades/windbreaks/heated enclosures as per the concreting requirement</li> <li>❖ Presence of evaporative retarders/anti-freeze is used in hot/cold weather concreting</li> <li>❖ Preventive measure taken with respect to temperature of concreting area</li> <li>❖ Ensuring rapid placement and compaction of concrete</li> <li>❖ Cutting of grooves/expansion/construction joint</li> </ul> <ul style="list-style-type: none"> <li>• Carry out checks, monitor and examine concrete after stripping of forms for surface deformities and defects</li> <li>• Direct subordinates for removal and repair of concrete with porosity, honey comb, or segregated materials</li> <li>• Direct subordinates on method of repair of concrete as per specifications</li> </ul>	
5	<p><b>Plan, arrange and manage resources for execution of relevant work</b></p> <p><b>Theory Duration</b> (hh:mm) 16:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)</p> <p>32:00 <b>Corresponding NOS Code</b> CON/N7001</p>	<ul style="list-style-type: none"> <li>• Method of estimating qualities and determining quantum of work</li> <li>• Method of resource calculation and ascertaining timelines for assigned task</li> <li>• Method of submitting the requirement to seniors</li> <li>• Method of identifying priority and critical activity of a task</li> <li>• Method and technique on briefing team members about relevant work</li> <li>• Importance of daily productivity report and its preparation</li> <li>• Importance of daily attendance register and its preparation</li> <li>• Method of calculation of quantum of concreting work</li> <li>• Method of calculation of tools and material requirement for concreting works</li> <li>• Method of optimization of available resources</li> <li>• Different check to evaluate progress and quality of relevant works</li> <li>• Organizing resources and quality checks to be performed as per requirement of the concreting works</li> </ul> <p><b><u>Demonstration/ Practical (D/P) :-</u></b></p> <ul style="list-style-type: none"> <li>• Prepare work schedule as per planning</li> <li>• Determine quantum of work and calculate manpower required for work.</li> </ul>	<p><u>infrastructural requirements</u></p> <ol style="list-style-type: none"> <li>1. classroom having sitting capacity of 30 trainees</li> <li>2. blackboard</li> <li>3. Laptop</li> </ol> <p>The practical aspect of training to be carried out at a construction site where mechanical/specialised concreting works are being carried out while carrying out the core skills.</p> <p>Since the demonstration/practical training is being conducted on-site to get the required competencies the tools and equipment</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Submit manpower requirement to seniors and procure approval of the same.</li> <li>Allocate resources for the work</li> <li>Allocate material , equipment and tools to workmen and extract the work as per plan</li> <li>Provide clear instruction to workman and extract work as per schedule.</li> <li>Explain deviation in works and justify the same</li> <li>Minimize wastage as per standard working method</li> <li>Prepare format for daily labour attendance</li> <li>Prepare format for daily productivity report and calculate the daily productivity for a given work</li> </ul>	<p>required will be acquirable at site.</p>
6	<p><b>Work effectively in a team to deliver desired results at the workplace</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)  24:00</p> <p><b>Corresponding NOS Code</b> CON/N8001</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>Introduction to leadership development program</li> <li>Effective communication skill during guiding/ instructing subordinate</li> <li>Productivity norms related to activities to be performed</li> <li>Promoting organisational safety and quality norms within the workplace</li> <li>Safety awareness to be created within workplace and safe work method to be followed</li> <li>Clarify confusions among subordinates and provide clear instruction</li> <li>Reporting procedure to the seniors in oral/ written format as applicable to the organisational norms</li> <li>Coordinate with different trade personnel to obtain/ pass on work information</li> <li>Ensure safety of subordinates by completing all necessary safety formalities</li> </ul> <p><b>Demonstration/ Practical (D/P): -</b> The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition</p> <ul style="list-style-type: none"> <li>Briefing about work targets, scopes and timelines to be achieved</li> <li>Demonstrate advantages of team working and effective communication procedure within the team</li> <li>Seeking information/ updates from subordinates at regular interval</li> </ul>	<p><u>infrastructural requirements</u></p> <ol style="list-style-type: none"> <li>classroom having sitting capacity of 30 trainees</li> <li>blackboard</li> <li>Laptop</li> </ol> <p>The practical aspect of training to be carried out at a construction site where mechanical/specialised concreting works are being carried out while carrying out the core skills.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Reporting to senior or other trade personnel in appropriate reporting procedure</li> <li>Analyze problems identified within team and take necessary action</li> <li>Motivate subordinate to increase productivity</li> <li>Allocate manpower for assigned task according to their personal attributes/ expertise (as applicable)</li> </ul>	
7	<p><b>Plan and organize work to meet expected outcomes</b></p> <p><b>Theory Duration</b> (hh:mm) 16:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)  32:00</p> <p><b>Corresponding NOS Code</b> CON/N8002</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>Method of resource planning and ascertaining timelines for assigned task</li> <li>Organising resources and quality checks to be performed as per current/ voltage rating of the materials and fixtures to be used for Concrete</li> <li>Method of preparation of work schedule</li> <li>Method of estimation of resources from drawings/ schedules</li> <li>Monitoring procedure of ongoing works and inspection of completed works to ensure compliance with all electrical safety and quality parameters</li> <li>Method of preparation of observation data sheet, inspection report</li> <li>Method of reconcile material used for assigned task</li> <li>Method of preparation of budget for domestic electrification work</li> </ul> <p><b>Demonstration/ Practical (D/P) :-</b></p> <ul style="list-style-type: none"> <li>Prepare work schedule as per planning</li> <li>Arrange material and required tools/ fixtures prior to start any work</li> <li>Explain deviation in works and justify the same</li> <li>Suggest alternative arrangement/ use of equipment in case of emergency situation</li> <li>Coordinate with subordinates and different trade personnel</li> <li>Minimize wastage as per standard working method</li> </ul>	<p><u>infrastructural requirements</u></p> <ol style="list-style-type: none"> <li>classroom having sitting capacity of 30 trainees</li> <li>blackboard</li> <li>Laptop</li> </ol> <p>The practical aspect of training to be carried out at a construction site where mechanical/specialised concreting works are being carried out while carrying out the core skills.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site.</p>
8	<p><b>Supervise, monitor and evaluate performance of subordinates at workplace</b></p> <p><b>Theory Duration</b> (hh:mm) 16:00</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>Setting up timelines for completion of activities as per resource deployed and productivity norms</li> <li>Managing manpower and allocation of manpower as per deadline provided for assign task</li> <li>Critical quality aspects to be checked in the ongoing concreting works</li> </ul>	<p><u>infrastructural requirements</u></p> <ol style="list-style-type: none"> <li>Classroom having sitting capacity of 30 trainees</li> <li>Blackboard</li> <li>Laptop</li> </ol> <p>The practical aspect of training to be carried out at a construction</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)</p> <p>32:00</p> <p><b>Corresponding NOS Code</b> CON/N8003</p>	<ul style="list-style-type: none"> <li>How to provide timely instructions to the subordinates during ongoing concreting works</li> <li>How to evaluate strengths and weakness of subordinate workers and utilize them appropriately as per job requirement</li> <li>Method of supervising activities to increase productivity of workers and achieving set quality and safety standards for the concreting works</li> </ul> <p><b>Demonstration/ Practical (D/P): -</b></p> <ul style="list-style-type: none"> <li>Instruct subordinates for applicable working methods and safety norms for assigned for concreting works</li> <li>Seek work related clarifications from subordinates and provide support/ guidance as per requirement of the job</li> <li>Observe each subordinate as per their strength and weaknesses and deploy them as per criticality/ emergency of the job</li> <li>Implement organisational/ quality / safety work methods while undertaking any job and ensure compliance to the same by subordinates</li> </ul>	<p>site where mechanical/specialised concreting works are being carried out while carrying out the core skills.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site</p>
9	<p><b>Manage workplace for safe and healthy work environment</b></p> <p><b>Theory Duration</b> (hh:mm) 16:00</p> <p><b>Practical Duration</b> (hh:mm) (Recommend that this practical is done in industry set up)</p> <p>32:00</p> <p><b>Corresponding NOS Code</b> CON/N9002</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>Types of hazards involved in construction sites</li> <li>Types of hazards involved in concreting works</li> <li>Process of hazard analysis for concreting works</li> <li>Detailed safety norms as per standard practice and organizational policy, procedure of providing CPR, first aids, use of regular and job specific PPEs as per requirement</li> <li>classification of fire and use of fire protection devices</li> <li>Emergency safety control measures and actions to be taken under emergency situation</li> <li>Concept of: -             <ol style="list-style-type: none"> <li>First Aid process</li> <li>Use of fire extinguisher</li> <li>Classification of fires and fire extinguisher</li> <li>Safety drills</li> <li>Types and use of PPEs as per general and structural execution works safety norms</li> </ol> </li> </ul>	<p><b>PPEs &amp; safety equipment's</b></p> <ol style="list-style-type: none"> <li>helmet</li> <li>safety shoes</li> <li>safety belt</li> <li>cotton rubber gloves</li> <li>ear plugs</li> <li>reflective jackets</li> <li>safety message boards</li> <li>message board displaying Do's and Don'ts at construction sites</li> <li>Fire extinguishers</li> <li>Sand buckets</li> </ol> <p><b>infrastructural requirements</b></p> <ol style="list-style-type: none"> <li>Classroom having sitting capacity of 30 trainees</li> <li>Blackboard</li> <li>Laptop</li> </ol> <p>The practical aspect of training to be carried</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Reporting procedure to the concerned authority in emergency situations</li> <li>Standard procedure of handling, storing and stacking material, tools and equipment for concreting works</li> <li>What is safe disposal of waste, type of waste and their disposal</li> <li>Type of power tools ,their power ratings and area of application</li> <li>basic ergonomic principles as per applicability</li> </ul> <p><b>Demonstration/ Practical (D/P): -</b> The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition.</p> <ul style="list-style-type: none"> <li>Fill structural execution works permits and work approval documents</li> <li>Selection of PPEs and use them appropriately as per working need of concreting works, handling, storing, stacking and shifting of materials, tools and equipment used for concreting works</li> <li>Selection of PPEs and use them appropriately as per working need of placing, compaction of concrete</li> <li>Analysis of hazards involved in concreting works</li> <li>Identification of locations, situations/ circumstances, malpractices which can be hazardous for concreting works</li> <li>Selection of fire extinguisher based on classification of fire, standard practice of storing &amp; stacking firefighting equipment/ materials at work locations</li> <li>Disposal of waste materials as per their nature and effects on weather.</li> </ul>	<p>out at a construction site where mechanical/specialised concreting works are being carried out while carrying out the core skills.</p> <p>Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site</p>
	<p><b>Total Duration</b></p> <p><b>Theory Duration</b> 300:00</p> <p><b>Practical Duration</b> 500:00</p>	<p><b>Unique Equipment Required:</b> Since the demonstration/ practical training is being conducted on-site to get the required competencies the tools and equipment required will be acquirable at site</p> <p>Class room for theory and assessment with 30 study chairs ,Workshop/Mock-up yard for practical training and assessment ,Toilet/Urinals (Separate for gents and Ladies), 3 phase power supply points , Single phase power supply points, Fire extinguishers (mechanical foam, DCP, CO2 and sand buckets with stand), First aid kit, Tool box with lock and key</p>	

Grand Total Course Duration: **800Hours, 0 Minutes**  
Recommended **436 hours of OJT**

(This syllabus/ curriculum has been approved by [Construction Skill Development Council of India](#))



## Trainer Prerequisites for Job role: “Foreman Concrete” mapped to Qualification Pack: “CON/Q0110, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “CON/Q0110”.
2	<b>Personal Attributes</b>	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field
3	<b>Minimum Educational Qualifications</b>	ITI/12th
4a	<b>Domain Certification</b>	Trainer/Assessor-80% in each NOS of Qualification Pack “MEP/Q0102” or “MEP/Q0104” and Lead trainer/Lead Assessors- 90% in each NOS of Qualification Pack “MEP/Q0101” or “MEP/Q0103”
4b	<b>Platform Certification</b>	Trainer/Assessor-50% in each NOS of Qualification Pack “MEP/Q0101” or “MEP/Q0103” & 80% overall, Lead trainer/ Lead Assessors- 50% in each NOS of Qualification Pack “MEP/Q0101” or “MEP/Q0103” and overall 90%
5	<b>Experience</b>	Technical Degree holder with minimum five years of Field experience and preferably two years of teaching experience, or, ii. In case of a Diploma Holder seven years of field experience and preferably two years of teaching experience or, iii. In case of ITI/12th minimum ten years of field experience and preferably two years of teaching experience.



## **CRITERIA FOR ASSESSMENT OF TRAINEES**

<b><u>Job Role</u></b>	Foreman Concrete
<b><u>Qualification Pack</u></b>	CON/Q0110
<b><u>Sector Skill Council</u></b>	Construction

### **Guidelines for Assessment**

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each 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 PC.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8. After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9. 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 within the specified timeframe set by SSC.
10. Minimum duration of Assessment of each QP shall be of 4hrs/trainee.





Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Mark	Out Of	Theory	Skills Practical
CON/N0129:Read and interpret working drawings, concrete specification and standards for concreting works	PC1. read & interpret details like location, concrete grade, pour area, pouring volume and reinforcement detail from relevant working drawings for concreting works	<b>100</b>	13	5	8
	PC2. read and understand specification provided in the relevant drawing for concreting works		13	5	8
	PC3. read and understand schedule for concreting works		12	5	7
	PC4. read ,understand operational standards /manufacture’s specification of all relevant concreting tools and equipment		12	5	7
	PC5. read and understand method statement for concrete works		12	5	7
	PC6. read and understand standard technical specification within scope of work		13	5	8
	PC7. prepare hand sketches for describing work to sub-ordinates		13	5	8
	PC8. carryout calculation for required quantity of material from structural drawing for reconciliation and records		12	5	7
	<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>	
CON/N0130: Check and ensure completion of preparatory works prior to concreting	PC1. prepare a detailed work plan for execution of concreting work at construction site/yard	<b>100</b>	6	2	4
	PC2. check and ensure setting out for concreting work is as per the approved drawings		7	3	4
	PC3. check and ensure working platforms, hand rails and access stairs are safe for working		7	3	4
	PC4. check and ensure workplace is clear of debris and guard rails, safety nets & kerb boards are in place		6	2	4
	PC5. instruct & ensure that the concrete used is prepared in the specified proportions within the specified workability in case of manual mixing of concrete		7	3	4
	PC6. check the grade of concrete prior to concreting		6	2	4
	PC7. inspect the required formwork/molds for gaps/misalignment of reinforcement/cover		7	3	4
	PC8. inspect and check the formwork/molds for leaks during concreting		7	3	4
	PC9. inspect and ensure cleaning of formwork prior to concreting		6	2	4
	PC10. inspect the shoring and bracing of concrete forms to ensure their stability during pour		7	3	4

	PC11. indicate route and position for pouring of concrete		7	3	4
	PC12. inspect the fixing and setting of pump line ,machinery for pouring of concrete		7	3	4
	PC13. instruct of the use of suitable type of pump w.r.t the discharge and head of concrete		7	3	4
	PC14. record details of the concreting works covering grade of concrete, area and volume of pour, number of workers ,tools and equipment deployed for work and achieved productivity		7	3	4
	PC15. oversee and inspect the pumping of concrete		6	2	4
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N0131: Direct and monitor the execution of concreting works as per specifications and standard practices	PC1. visually assess the workability and usability of concrete mix & discard detrimental concrete mix	<b>100</b>	2	1	1
	PC2. oversee and inspect the pumping of concrete to various structures		3	1	2
	PC3. prescribe method for pouring, levelling and finishing of concrete as per standard practices and specifications		2	1	1
	PC4. conduct checks and inspections to ensure that: <ul style="list-style-type: none"> <li>• concrete is poured from required height</li> <li>• concrete does not scrape form or mould</li> <li>• correct type of vibrator is used in the specified manner</li> </ul>		7	3	4
	PC5. inspect and assist in using tools and equipment relevant to task		2	1	1
	PC6. ensure that concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness/finish		5	2	3
	PC7. ensure leveling of edges and corners within tolerance levels		2	1	1
	PC8. direct and monitor the grooving/cutting for expansion/contraction joints		2	1	1
	PC9. ensure that the appropriate technique for finishing of concrete works like broom finish, float and trowel finish etc .has been employed as per drawing		4	1	3
	PC10. ensure synchronization of all above concreting activities to ensure rapid placement and compaction of concrete with respect to the setting time of concrete in case of form finished structure		5	2	3
	PC11. prescribe method and monitor curing of concrete		3	1	2
	PC12. highlight errors to workers, suggest remedial action & demonstrate correct work processes as per applicability		3	1	2
	PC13. monitor wind, air, concrete temperature and humidity		5	2	3

	PC14. manage schedule of concreting in accordance with the temperature change in day and night as per hot/cold weather concreting		5	2	3
	PC15. provide sunshades/windbreaks/heated enclosures as per the concreting requirement		5	2	3
	PC16. check that evaporative retarders/anti-freeze is used in hot/cold weather concreting		5	2	3
	PC17. ensure correct preventive measures are taken w.r.t the hot/cold weather concreting		5	2	3
	PC18. ensure rapid placement and compaction of concrete as per concreting requirement		5	2	3
	PC19. monitor the placing and grooving/cutting of expansion/construction joint as per concreting requirement		5	2	3
	PC20. monitor the curing of concrete for a specified period of time in hot/cold weather concreting		5	2	3
	PC21. examine concrete after stripping of forms for surface deformities and defects		4	1	3
	PC22. direct the removal and repair of concrete with porosity, honey comb, or segregated materials, as approved by senior/client		8	3	5
	PC23. prescribe method for repair as per applicability		6	3	3
	PC24. ensure proper curing of repaired concrete		2	1	1
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N7001:Plan, arrange and manage resources for execution of relevant work	PC1. determine quantum and nature of work under assigned activity	<b>100</b>	5	2	3
	PC2. calculate requirement of manpower for assigned activities		8	3	5
	PC3. submit manpower requirement to superiors		5	2	3
	PC4. allocate and extract work as per plan		8	3	5
	PC5. provide clear instructions to workmen for execution of work		8	3	5
	PC6. ensure optimum utilization of manpower resources		8	3	5
	PC7. record the daily labour attendance		8	3	5
	PC8. record the daily productivity report		8	3	5
	PC9. estimate quantity of assigned work		8	3	5
	PC10. estimate requirement for material, components and fixtures		8	3	5
	PC11. estimate equipment, tools and accessories required		8	3	5
	PC12. submit material, equipment and tool requirement to superiors		8	3	5
	PC13. allocate material, equipment and tools to workmen and extract the work as per plan		8	3	5



	PC14. provide clear instructions for optimized use of resources		8	3	5
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N8001: Work effectively in a team to deliver desired results at the workplace	PC1. pass on work related information/ requirement clearly to the team members	<b>100</b>	10	4	6
	PC2. inform co-workers and superiors about any kind of deviations from work		10	4	6
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		20	8	12
	PC4. receive instructions clearly from superiors and respond effectively on the same		10	4	6
	PC5. communicate to team members/subordinates for appropriate work technique and method		10	4	6
	PC6. seek clarification and advice as per the requirement and applicability		10	4	6
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		15	6	9
	PC8. work together with co-workers in a synchronized manner		15	6	9
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N8002: Plan and organize work to meet expected outcomes	PC1. understand clearly the targets and timelines set by superiors	<b>100</b>	13	5	8
	PC2. plan activities as per schedule and sequence		10	4	6
	PC3. provide guidance to the subordinates to obtain desired outcome		13	5	8
	PC4. plan housekeeping activities prior to and post completion of work		8	3	5
	PC5. list and arrange required resources prior to commencement of work		10	4	6
	PC6. select and employ correct tools, tackles and equipment for completion of desired work		8	3	5
	PC7. complete the work with allocated resources		8	3	5
	PC8. engage allocated manpower in an appropriate manner		5	2	3
	PC9. use resources in an optimum manner to avoid any unnecessary wastage		5	2	3
	PC10. employ tools, tackles and equipment with care to avoid damage to the same		5	2	3
	PC11. organize work output, materials used, tools and tackles deployed,		10	4	6
	PC12. processes adopted to be in line with the specified standards and instructions		8	3	5
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N8003:Super vise, monitor and evaluate	PC1. fix expected targets for the respective gang as per site requirements and allocate work to subordinates	<b>100</b>	15	6	9



performance of subordinates at workplace	PC2. establish expected performance standards and expectations for the respective gang of workers to meet the desired outcomes		15	6	9
	PC3. inspect assigned work to the respected gang of workers through progressive checking		20	8	12
	PC4. observe and verify the work activities performed by the subordinates at the construction site		20	8	12
	PC5. monitor overall performance of subordinates on the designed measures to ensure quality requirements set by the concerned authority		15	6	9
	PC6. ensure adherence to the organizational policies and procedures for all relevant construction activities by the workmen subordinations		15	6	9
		<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>
CON/N9002: Manage workplace for safe and healthy work environment	PC1. Ensure proper housekeeping at workplace	<b>100</b>	5	2	3
	PC2. Implement safe handling , stacking methods at workplace / store		5	2	3
	PC3. Ensure that health and safety plan is followed by all subordinates		5	2	3
	PC4. Identify any hazard in workplace and notify them to appropriate authority		5	2	3
	PC5. ensure that all safety and protection installation are correctly placed & adequate		5	2	3
	PC6. Ensure safe access is available at work place for movement of workers & materials.		5	2	3
	PC7. Ensure safe use of tools and tackles by the workmen as per applicability		5	2	3
	PC8. ensure appropriate use of following Personal Protective Equipment (PPE) as per applicability: <ul style="list-style-type: none"> <li>· Head Protection (Helmets)</li> <li>· Ear Protection</li> <li>· Fall Protection</li> <li>· Foot Protection</li> <li>· Face and Eye Protection,</li> <li>· Hand &amp;Body Protection</li> <li>· Respiratory Protection</li> </ul>		10	4	6
	PC9. Maintain entrances & exit from confined spaces, excavated pits and other location in concurrence with safety parameters or instruction form safety personals.		5	2	3



PC10. Ensure organizational policies and procedures are followed for health , safety and welfare, in relation to: <ul style="list-style-type: none"> <li>· methods of receiving or sourcing information</li> <li>· dealing with accidents and emergencies associated with the work and environment</li> <li>· reporting</li> <li>· stooping work</li> <li>· evacuation</li> <li>· fire risks and safe exit procedures</li> </ul>	10	4	6	
PC11. follow procedures for accident recording and reporting as per organizational and statutory requirements	5	2	3	
PC12. ensure effective adherence to response to emergency procedures / protocols	7.5	3	4.5	
PC13. report any case of emergency / risks to the concern people at the construction site	7.5	3	4.5	
PC14. report any perceived risk hazards to the superiors / concerned EHS	7.5	3	4.5	
PC15. demonstrate the use of fire protection equipments for different type of fire hazard	7.5	3	4.5	
PC16. implement control measures to reduce risk & meet legal requirement as per organizational policies	5	2	3	
	<b>Total</b>	<b>100</b>	<b>40</b>	<b>60</b>