



# Model Curriculum

## 1. Mason Concrete

**SECTOR:** Construction  
**SUB-SECTOR:** Real Estate and Infrastructure Construction  
**OCCUPATION:** MASONRY  
**REF ID:** CON/Q0105, V1.0  
**NSQF LEVEL:** 3



  

# Certificate

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

is hereby issued by the  
**CONSTRUCTION SECTOR SKILLS COUNCIL**

for the  
**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/Qualification Pack: **'Mason Concrete'** QP No. **'CON/Q 0105 NSQF Level 3'**

Date of Issuance: December 31st, 2015  
Valid up to: May 31st, 2017  
\* Valid up to the next review date of the Qualification Pack

  
Authorised Signatory  
(Construction Skill Development Council)



## TABLE OF CONTENTS

<b>1. Curriculum</b>	<b>01</b>
<b>2. Trainer Prerequisites</b>	<b>10</b>
<b>3. Annexure: Assessment Criteria</b>	<b>11</b>



# Mason Concrete

## CURRICULUM / SYLLABUS

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

<b>Program Name</b>	<b>Mason Concrete</b>		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	CON/Q0105, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	08-08-2016
<b>Pre-requisites to Training</b>	Preferably 5th Standard		
<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 Mason Concrete job role and its career progression:</b> - General introduction to job role, role of a Mason Concrete in construction industry along with the future possible career development provisions.</li><li>• <b>Carry out IPS / Tremix flooring :-</b> Select and use tools, materials and equipment for construction of IPS/Tremix flooring works</li><li>• <b>Place, level and finish concrete in various structural elements including repair works:</b> - Select and use tools and equipment for placing, levelling and finishing concrete in various structural elements and carry out minor repair works on hardened concrete.</li><li>• <b>Work effectively in a team to deliver desired results at the workplace :-</b> Organised working procedure within a team at site</li><li>• <b>Plan and organize work to meet expected outcomes:-</b> Prioritizing activities and organising resources to meet desired outcome</li><li>• <b>Work according to personal health, safety and environment protocol at construction site:</b> - Importance of Health &amp; Safety aspects &amp; measures to be followed while working</li></ul>		

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Mason Concrete” Qualification Pack issued by “Construction”.

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>	<ul style="list-style-type: none"> <li>• Role description/ functions of the job role</li> <li>• Expected personal attributes from the job role</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> </ul>	<ol style="list-style-type: none"> <li>1. Classroom having seating requirement for 30 people.</li> <li>2. Projector</li> <li>3. Blackboard</li> </ol>
2	<p><b>Carry out IPS / Tremix flooring</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 74:00</p> <p><b>Corresponding NOS Code</b> CON/N0114</p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>• Knowledge of standard specifications of all tools and equipment required for masonry along some specialized tools for Tremix flooring such as : <ul style="list-style-type: none"> <li>❖ Vacuum de-watering Pump</li> <li>❖ Floater Machine</li> <li>❖ Double beam Screen Vibrator</li> </ul> </li> <li>• Procedure for preparation of sub base for waterproofing works by watering and ramming.</li> <li>• Procedure for marking reference level and transferrin of levels.</li> <li>• Various type of aggregates, type and grade of cement used and effect of water /cement ratio.</li> <li>• Different grade of concrete</li> <li>• Procedure for manual mixing of concrete and nominal mix proportion.</li> <li>• various admixtures used in concreting</li> <li>• Sequence of concrete pouring and placing.</li> <li>• Provision of cover for reinforcement w.r.t size of reinforcement</li> <li>• Procedure for carrying out vibration of poured concrete</li> <li>• Different type pf vibrators used for concrete curing, their influence area and use.</li> <li>• Procedure for avoiding shrinkage cracks in concrete</li> <li>• Different construction and expansion joints</li> <li>• Different tools used for grooving/providing expansion joints</li> <li>• Procedure for final trowelling of concrete for desired finish</li> <li>• Procedure for removal of excess water using Vacuum dewatered machine.</li> <li>• Use of screed vibrator</li> </ul>	<ol style="list-style-type: none"> <li>1. Hammer,</li> <li>2. Brick chisel</li> <li>3. Stone chisel</li> <li>4. Comb chisel</li> <li>5. Bolster</li> <li>6. Masonry hand saw</li> <li>7. Steel trowel, Float wooden/metal)</li> <li>8. Straight edge (Aluminium)</li> <li>9. Wood/rubber mallet, Spade (Phawda)</li> <li>10. Mortar pan (Ghamela)</li> <li>11. Corner trowel</li> <li>12. Pointer trowel</li> <li>13. Tuck pointing trowel</li> <li>14. Line and pins</li> <li>15. Screed board</li> <li>16. Jointers</li> <li>17. Steel lever</li> <li>18. Plumb bob</li> <li>19. Line string (line Dori)</li> <li>20. Try square,</li> <li>21. Spirit level</li> <li>22. Measuring tape</li> <li>23. Steel or wooden scale</li> <li>24. Tapered rule</li> <li>25. Gauge box</li> <li>26. Plate compactor</li> <li>27. Concrete vibrator</li> <li>28. Grouting machine</li> <li>29. machine (Manual)</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Different type of hardeners used in IPS/Tremix flooring.</li> <li>• Procedure of operating VDF in a narrow passage.</li> </ul> <p><b><u>Demonstration/ Practical :-</u></b></p> <ul style="list-style-type: none"> <li>• Demonstrate the checks to be carried out for inspection of area prior to concreting</li> <li>• Ensure appropriate preparation of site.</li> <li>• Demonstrate checks for formwork to avoid leakage and deviation in slope and alignment in PCC</li> <li>• Demonstrate reporting of the misalignment in formwork/reinforcement and ensure proper cover for reinforcement.</li> <li>• Demonstrate marking and transfer of levels on floor for required thickness using appropriate tools.</li> <li>• Demonstrate checks to be performed for assessing the grade of cement, fine aggregate and concrete prior to use.</li> <li>• Demonstrate checks for assessing preparation of panels as per specified size and type.</li> <li>• Demonstrate fixing of glass, aluminium or brass strip in cement mortar with their tops at appropriate level and according to slope</li> <li>• Carry out pouring of concrete in alternate panels.</li> <li>• Carry out compaction and finishing of the concrete surface</li> <li>• Carrying of cutting of groves for providing construction joints and expansion joints as per requirement</li> <li>• Carry out levelling of poured concrete to the specified levels maintaining required slope</li> <li>• Carry out Tremix/VDF Flooring by laying stone soling/boulder soling layer as first step.</li> <li>• Carry out laying of floor with slope as per requirement.</li> <li>• Carry out removal of excess water from top layer by VDF machine</li> <li>• Carry out cutting of groves for construction joints</li> <li>• Ensure curing of the finished floor.</li> </ul>	<ul style="list-style-type: none"> <li>30. Dewatering machine(VDF)</li> <li>31. Groove cutting machine</li> <li>32. Cement , Sand (Medium)</li> <li>33. Plasticizers</li> <li>34. Common burnt clay brick (2nd class)</li> <li>35. Coarse aggregates</li> <li>36. Rubble stone (Natural stone)</li> <li>37. Water proofing compound with primer</li> <li>38. Glass stiff, Scaffold set (Including all components)</li> <li>39. Lifting , appliances (wheel and rope, shackles, sling, belts)</li> <li>40. Wheel barrows</li> <li>41. Wooden sleepers</li> <li>42. Rhombus mesh</li> <li>43. expanded metal mesh)</li> <li>44. Mixing plat form (3'x5')</li> <li>45. Red oxide</li> <li>46. Helmet</li> <li>47. Face shield</li> <li>48. Safety goggles</li> <li>49. Safety shoes</li> <li>50. Safety belt</li> <li>51. Ear defenders</li> <li>52. Particle masks</li> <li>53. Overalls Knee pad</li> <li>54. Reflective jackets</li> <li>55. Pencil</li> </ul>
3	Place, level and finish concrete in various structural elements including repair works	<p><b><u>Theory:-</u></b></p> <ul style="list-style-type: none"> <li>• Simple sketches related to concreting works.</li> </ul>	<ul style="list-style-type: none"> <li>1. measuring tape/rule,</li> <li>2. vibrator,</li> <li>3. shovels,</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Theory Duration</b> (hh:mm) 36:00</p> <p><b>Practical Duration</b> (hh:mm) 206:00</p> <p><b>Corresponding NOS Code</b> CON/N0117</p>	<ul style="list-style-type: none"> <li>• Basic properties of concrete which include weight, slump and mix proportions</li> <li>• Different tools used for concreting works and their specification</li> <li>• Method of selecting and using different tools, tackles and equipment for concreting works.</li> <li>• Procedure for marking reference level and transferring of levels.</li> <li>• Different type and grade of cement used for concreting works</li> <li>• Different type of aggregates used for concreting</li> <li>• Effect of water/cement ratio on strength of mix</li> <li>• Nominal mixes and mix proportion for concrete</li> <li>• Different grades of concrete</li> <li>• Procedure for manual mixing of concrete and nominal mix proportion.</li> <li>• various admixtures used in concreting</li> <li>• Sequence of concrete pouring and placing.</li> <li>• Provision of cover for reinforcement w.r.t size of reinforcement</li> <li>• Procedure for pouring concrete from standard height</li> <li>• Procedure for carrying out vibration of poured concrete</li> <li>• Different type pf vibrators used for concrete curing, their influence area and use.</li> <li>• Procedure for avoiding shrinkage cracks in concrete</li> <li>• Different construction and expansion joints</li> <li>• Different tools used for grooving/providing expansion joints</li> <li>• Procedure for final trowelling of concrete for desired finish</li> <li>• Different type of finishes of finished concrete like:               <ul style="list-style-type: none"> <li>❖ Stamped concrete finish</li> <li>❖ Stencilling concrete finish</li> <li>❖ Broom finish</li> <li>❖ Rock salt finish</li> </ul> </li> <li>• Procedure for cleaning and removal of spilled concrete</li> <li>• Knowledge about releasing agents, their application and purpose</li> <li>• Procedure for concreting in precast segments</li> </ul>	<ol style="list-style-type: none"> <li>4. rakes</li> <li>5. screeding board</li> <li>6. tamping tools (hand, rolling, etc.)</li> <li>7. large floating device like bull float</li> <li>8. Hammer,</li> <li>9. Brick chisel</li> <li>10. Stone chisel</li> <li>11. Comb chisel</li> <li>12. Bolster</li> <li>13. Masonry hand saw</li> <li>14. Steel trowel, Float wooden/metal)</li> <li>15. Straight edge (Aluminium)</li> <li>16. Wood/rubber mallet, Spade (Phawda)</li> <li>17. Mortar pan (Ghamela)</li> <li>18. Corner trowel</li> <li>19. Pointer trowel</li> <li>20. Tuck pointing trowel</li> <li>21. Line and pins</li> <li>22. Screed board</li> <li>23. Jointers</li> <li>24. Steel lever</li> <li>25. Plumb bob</li> <li>26. Line string (line Dori)</li> <li>27. Try square,</li> <li>28. Spirit level</li> <li>29. Measuring tape</li> <li>30. Steel or wooden scale</li> <li>31. Tapered rule</li> <li>32. Gauge box</li> <li>33. Plate compactor</li> <li>34. Concrete vibrator</li> <li>35. Grouting</li> <li>36. machine (Manual)</li> <li>37. Dewatering machine(VDF)</li> <li>38. Groove cutting machine</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Procedure to ensure embedded parts are in place in pre-cast segments</li> <li>• Different type of defects on hardened concrete surface like:               <ul style="list-style-type: none"> <li>❖ air holes/voids</li> <li>❖ bulges</li> <li>❖ offset between joints</li> <li>❖ honeycombing</li> </ul> </li> <li>• Preparation of mortar for correcting defects</li> <li>• Application of mortar for correcting defects</li> <li>• Carrying out chipping and grinding to rectify defects.</li> <li>• Filling cracks with mortar for rectifying defects.</li> <li>• <b><u>Demonstration/ Practical :-</u></b></li> <li>• Demonstrate reading of sketched and interpretation of information for concreting works</li> <li>• Demonstrate the checks to be carried out for inspection of area prior to concreting</li> <li>• Ensure appropriate preparation of site.</li> <li>• Demonstrate checks for formwork to avoid leakage and deviation in slope and alignment of formwork</li> <li>• Demonstrate reporting of the misalignment in formwork/reinforcement and ensure proper cover for reinforcement</li> <li>• Demonstrate checks to be performed for assessing the grade of cement, fine aggregate and concrete prior to use.</li> <li>• Visually access quality of concrete and report to superiors for detrimental quality of concrete</li> <li>• Demonstrate handling and adjust the pouring equipment as per requirements</li> <li>• Demonstrate maintenance of standard pouring height for concrete throughout pouring</li> <li>• Carry out pouring of concrete in specified layers.</li> <li>• Demonstrate maintenance of cover while concreting</li> <li>• Carry out compaction of concrete using concrete vibrators within specified depth</li> <li>• Carry out compaction and finishing of the concrete surface</li> <li>• Carrying of cutting of groves for providing construction joints and expansion joints as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>39. Cement , Sand (Medium)</li> <li>40. Plasticizers</li> <li>41. Common burnt clay brick (2nd class)</li> <li>42. Coarse aggregates</li> <li>43. Rubble stone (Natural stone)</li> <li>44. Water proofing compound with primer</li> <li>45. Glass stiff, Scaffold set (Including all components)</li> <li>46. Lifting , appliances (wheel and rope, shackles, sling, belts)</li> <li>47. Wheel barrows</li> <li>48. Wooden sleepers</li> <li>49. Rhombus mesh</li> <li>50. expanded metal mesh)</li> <li>51. Mixing plat form (3'x5')</li> <li>52. Red oxide</li> <li>53. Helmet</li> <li>54. Face shield</li> <li>55. Safety goggles</li> <li>56. Safety shoes</li> <li>57. Safety belt</li> <li>58. Ear defenders</li> <li>59. Particle masks</li> <li>60. Overalls Knee pad</li> <li>61. Reflective jackets</li> <li>62. Pencil</li> </ul>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Carry out levelling of poured concrete to the specified levels maintaining required slope</li> <li>• Demonstrate application final finish on the surface using any of the following techniques:               <ul style="list-style-type: none"> <li>❖ Stamped concrete finish</li> <li>❖ Stencilling concrete finish</li> <li>❖ Broom finish</li> <li>❖ Rock salt finish</li> </ul> </li> <li>• Demonstrate concreting in precast segments ensuring embedded items lay in place during vibrating and concreting</li> <li>• Identify the defects in hardened concrete surface</li> <li>• Demonstrate preparation of mortar for rectification of defects.</li> <li>• Demonstrate application of mortar to surface and filling of cracks with mortar to rectify defects.</li> <li>• Demonstrate chipping and grinding of hardened concrete surface for rectification of surface defects.</li> <li>• Ensure curing of the finished surface</li> </ul>	
4	<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) 16:00</p> <p><b>Corresponding NOS Code</b> CON/N8001</p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>• Method of oral and written communication skills with co-workers, trade seniors while handling and carrying out visual checks on materials, , tools and equipment</li> <li>• How to interpret scope of concreting and IPS/Tremix flooring activities, material/ tools handling by adhering to instructions or consulting with seniors</li> <li>• Method of providing instruction to subordinates or reporting to seniors clearly and promptly</li> <li>• Seek necessary support and complete assigned tasks within stipulated time duration</li> <li>• Keep good relation and maintain well behaviour with co-workers</li> </ul> <p><b>Demonstration/ Practical :-</b></p> <p>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>• Selection of materials, tools or devices for defined purpose under concreting works and providing instructions to subordinates for the same.</li> <li>• Handling of tools, equipment and materials for concreting and IPS/Tremix flooring including efficiently</li> </ul>	<ol style="list-style-type: none"> <li>1. Classroom having seating requirement for 30 people.</li> <li>2. Toilet/Urinals (Separate for gents and Ladies)</li> <li>3. Projector Blackboard</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>communicating with co-workers for desired requirement as per specification</p> <ul style="list-style-type: none"> <li>Carrying out concreting in precast and in-situ structures &amp; IPS/Tremix flooring while working as a team to ensure optimum utilization of material and resources</li> <li>Carrying out general concreting works utilizing the effort of co-workers.</li> <li>Undertaking visual checks to assess the quality of material and check line, level and alignments of work</li> <li>Selection and handing over of desired/ appropriate tools/ materials while assisting trade senior</li> </ul>	
5	<p><b>Plan and organize work to meet expected outcomes</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 08:00</p> <p><b>Corresponding NOS Code</b> CON/N8002</p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>To plan concreting in precast and in-situ structures &amp; IPS/Tremix flooring activities within defined scope of work</li> <li>Basic concept of productivity, sequence of working and implementation of safety and organizational norms while working</li> <li>Upkeep, storing and stacking methods of tools, materials used for domain specific works</li> <li>Requisition of resources, reporting for requirement of resources orally and in written to concerned authority - (T/P)</li> </ul> <p><b>Demonstration/ Practical :-</b></p> <ul style="list-style-type: none"> <li>The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition</li> <li>Selection of materials, tools or devices for defined purpose in an optimum manner</li> <li>Handling/organizing masonry tools, material, fixtures and device for concreting in precast and in-situ structures &amp; IPS/Tremix flooring works.</li> <li>Prioritize all works/ activities</li> <li>Planning concreting in precast and in-situ structures &amp; IPS/Tremix flooring works as per scope and schedule.</li> <li>Carrying out concreting in pre cast structure by optimum utilization of material and resources</li> <li>Optimum use of resources while performing task</li> <li>Adherence to stipulated timelines for completion of concreting activities/ tasks</li> </ul>	<ol style="list-style-type: none"> <li>Classroom having seating requirement for 30 people.</li> <li>Toilet/Urinals (Separate for gents and Ladies)</li> <li>Projector Blackboard</li> </ol>
6	<p><b>Work according to personal health, safety and environment</b></p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>Types of hazards involved in construction sites</li> </ul>	<ol style="list-style-type: none"> <li>Safety Helmets</li> <li>Face shield</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>protocol at construction site</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> CON/N9001</p>	<ul style="list-style-type: none"> <li>• Types of hazards involved in masonry works</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>1. First Aid process</li> <li>2. Use of fire extinguisher</li> <li>3. Classification of fires and fire extinguisher</li> <li>4. Safety drills</li> <li>5. Types and use of PPEs as per general safety norms</li> <li>6. Reporting procedure to the concerned authority in emergency situations</li> </ol> </li> <li>• Standard procedure of handling, storing and stacking material, tools and accessories</li> <li>• What is safe disposal of waste, type of waste and their disposal</li> <li>• Type of cutting tools, their standards and area of application</li> <li>• basic ergonomic principles as per applicability</li> </ul> <p><b>Demonstration/ Practical :-</b></p> <ul style="list-style-type: none"> <li>• The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition.</li> <li>• Selection of PPEs and use them appropriately as per working need of concreting and IPS/Tremix flooring operations</li> <li>• Selection of PPEs and use them appropriately as per working need of concreting works</li> <li>• Analysis of hazards involved in concreting at heights and in precast elements or informing to seniors regarding hazardous conditions</li> <li>• Identification of locations, situations/ circumstances, malpractices which can be hazardous for 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>	<ol style="list-style-type: none"> <li>3. Overalls</li> <li>4. Knee pads</li> <li>5. Safety shoes</li> <li>6. Safety belts</li> <li>7. Safety harness</li> <li>8. Safety Gloves</li> <li>9. Safety goggles</li> <li>10. Particle masks</li> <li>11. Ear Plugs</li> <li>12. Reflective jackets</li> <li>13. Fire Extinguisher</li> <li>14. Fire prevention kit</li> <li>15. First Aid box</li> <li>16. Safety tags</li> <li>17. Safety Notice board</li> </ol>
	<p><b>Total Duration</b></p>	<p>Hammer, Brick chisel, Stone chisel, Comb chisel, Bolster, Masonry hand saw, Steel trowel, Float wooden/metal), Straight</p>	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Theory Duration</b> <b>80:00</b></p> <p><b>Practical Duration</b> <b>320:00</b></p>	<p>edge (Aluminium), Wood/rubber mallet, Spade (Phawda), Mortar pan (Ghamela), Corner trowel, Pointer trowel, Tuck pointing trowel, Line and pins, Screed board, Jointers, Steel lever, Plumb bob, Line string (line Dori), Try square, Spirit level, Measuring tape, Steel or wooden scale, Tapered rule, Gauge box, Plate compactor, Concrete vibrator, Grouting machine (Manual), Dewatering machine(VDF), Groove cutting machine Cement, Sand (Medium), Plasticizers, Common burnt clay brick (2nd class), Coarse aggregates, Rubble stone (Natural stone), Water proofing compound with primer, Glass stiff, Scaffold set (Including all components), Lifting, appliances (wheel and rope, shackles, sling, belts), Wheel barrows, Wooden sleepers, Rhombus mesh, expanded metal mesh) Mixing plat form (3'x5'), Red oxide, Helmet, Face shield, Safety goggles, Safety shoes, Safety belt, Ear defenders, Particle masks, Overalls Knee pad, Reflective jackets, Pencil</p> <p><b>Infrastructure</b> 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: **400 Hours, 0 Minutes**

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



## Trainer Prerequisites for Job role: “Mason Concrete” mapped to Qualification Pack: “CON/Q0105, 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/Q0105”.
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/12 <sup>th</sup> standard pass
4a	<b>Domain Certification</b>	Trainer/Assessor-50% in each NOS & 80% overall, Lead trainer/ Lead Assessors- 50% in each NOS and overall 90%
4b	<b>Platform Certification</b>	Trainer/Assessor-80% in each NOS and Lead trainer/Lead Assessors-90% in each NOS
5	<b>Experience</b>	i. Technical Degree holder with minimum three years of Field experience and preferably two years of teaching experience or, ii. In case of a Diploma Holder five years of field experience and preferably two years of teaching experience or, iii. In case of ITI/12 <sup>th</sup> pass minimum eight years of field experience and preferably two years of teaching Experience.



## Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>Mason Concrete</b>
<b>Qualification Pack</b>	<b>CON/Q0105, v1.0</b>
<b>Sector Skill Council</b>	<b>Construction</b>

<b>Sr. No.</b>	<b>Guidelines for Assessment</b>
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 centre based on assessment criteria.
5	The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% 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.

		Marks Allocation			
		Total Mark	Out Of	Theory	Skills Practical
<b>CON/N0114: Carry out IPS / Tremix flooring works</b>	PC1. inspect the work area prior to concreting, ensure leveling in case of any undulations observed on the surface prior to concreting	<b>100</b>	2.5	0.5	2
	PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment in PCC		2.5	0.5	2
	PC3. report any gaps in formwork to avoid leakage		2.5	0.5	2
	PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided		2.5	0.5	2
	PC5. mark reference level on the wall & transfer this marking to all floor locations using appropriate tools		5	1	4
	PC6. mark flooring thickness level and provide dummy level dots at specified intervals for ensuring required slope		5	1	4
	PC7. check the grade of cement prior to use in case of manual mixing		2.5	0.5	2
	PC8. ensure fine aggregate is sieved as per grade requirement		2.5	0.5	2
	PC9. check that concrete is mixed in appropriate proportion		5	1	4
	PC10. visually assess the concrete mix for usability and workability		5	1	4
	PC11. notify superiors for detrimental quality of concrete		5	1	4
	PC12. ensure specified concrete mix is used at allocated location		5	1	4
	PC13. check that panels prepared are of specified size and type		2.5	0.5	2
	PC14. fix the glass, aluminum or brass strip in cement mortar with their tops at appropriate level and according to slope		2.5	0.5	2
	PC15. ensure panels are made as per specified size		2.5	0.5	2
	PC16. ensure concrete is poured in alternate panels/specified panels as per requirement		5	1	4
	PC17. remove excess cement slurry and any marks on the surface		2.5	0.5	2
	PC18. level the concrete surface with a straight edge and to the required finish with a wooden float / trowel		2.5	0.5	2
	PC19. spread cement punning over the IPS concrete for smooth finish surface and allow it to soak into the concrete, as per requirement		2.5	0.5	2
	PC20. provide construction joints and expansion joints as per requirement		2.5	0.5	2

	PC21. level poured concrete to the specified levels maintaining required slope		5	1	4
	PC22. ensure curing of the finished floor surface for the specified time		2.5	0.5	2
	PC23. level the surface and lay stone soling / boulder soling layer		2.5	0.5	2
	PC24. lay the floor with slope maintained in PCC work above the stone soling		2.5	0.5	2
	PC25. remove excess water from the top layer of wet concrete without removing cement of sand particles through vacuum de-watering machines		5	1	4
	PC26. ensure floater work within green concrete surface		2.5	0.5	2
	PC27. carry out Tremix flooring in specified panel on RCC floors ensuring intactness of rebar and cover		2.5	0.5	2
	PC28. cut grooves on concrete at specified intervals for construction joints		2.5	0.5	2
	PC29. provide expansion joints as per requirement		2.5	0.5	2
	PC30. carry out curing of finished concrete as per specifications		2.5	0.5	2
	PC31. ensure finished levels have required slope		2.5	0.5	2
		<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>
<b>CON/N0117: Place, level and finish concrete, both RCC and PCC, in various structural elements – in situ and pre cast</b>	PC1. inspect the area for completion of housekeeping works and remove any undulations on the surface prior to concreting	<b>100</b>	1.25	0.25	1
	PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment		2.5	0.5	2
	PC3. report any gaps in formwork to avoid leakage		2.5	0.5	2
	PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided		1.25	0.25	1
	PC5. notify superiors for detrimental quality of concrete		1.25	0.25	1
	PC6. visually assess the concrete mix for usability and workability		1.25	0.25	1
	PC7. check the type , grade of cement and visual soundness of cement prior to use		2.5	0.5	2
	PC8. check and ensure sieved fine aggregate prior to use		2.5	0.5	2
	PC9. instruct and ensure that mixing of concrete is in specified ratio		5	1	4
	PC10. handle and adjust the pouring equipments as per requirements		2.5	0.5	2
	PC11. ensure standard pouring height for concrete is maintained throughout pouring		2.5	0.5	2



PC12. ensure pouring of concrete takes place in specified layers	2.5	0.5	2
PC13. pour concrete to maintain specified levels & cover for steel reinforcement	5	1	4
PC14. apply vibrator within influence depth and as per standard procedures	4	1	3
PC15. ensure that the vibrator does not touch the reinforcement or is not applied to the face of the form	3.5	0.5	3
PC16. screed the concrete as per requirements using appropriate tools and technique	2.25	.25	2
PC17. push the excess concrete towards the formwork for easy removal	1.25	.25	1
PC18. float the concrete using appropriate tools	1.5	.5	1
PC19. level the edges and corners as per requirements using appropriate tools for semi-finished concrete		.25	1
PC20. provide construction/ control joints in concrete surface at pre-defined locations	2.5	.5	2
PC21. cut construction joints as per specification and requirements	1.25	.25	1
PC22. smoothen the surface using appropriate tools, to ensure a consistent and durable final finish	1.25	.25	1
PC23. apply a final finish on the surface as per requirements using any of the following major techniques: <ul style="list-style-type: none"> <li>• Stamped concrete finish</li> <li>• Stenciling concrete finish</li> <li>• Broom finish</li> <li>• Rock salt finish</li> </ul>	3.75	.75	3
PC24. provide shear key /vertical construction joint or cut construction joint as per requirement	1.25	.25	1
PC25. ensure cleaning and removal of spilled concrete is carried out after work	1.25	.25	1
PC26. ensure proper curing of concrete by marking and monitoring of the curing time	1.25	.25	1
PC27. ensure proper barricading of the concrete area and prevent any damage to the poured concrete	1.25	.25	1
PC28. inspect the area for completion of housekeeping works and remove any debris from the surface prior to concreting	1.5	0.5	1
PC29. report any gaps in formwork/moulds to avoid leakage	1.5	0.5	1
PC30. report any misalignment in formwork/reinforcement	1.5	0.5	1
PC31. check that cover for reinforcement is provided properly	1.25	0.25	1
PC32. point out any inadequacy in application of release agent	1.25	0.25	1

	PC33. comply with the sequence of pour during concreting		2.5	0.5	2
	PC34. pour concrete appropriately and as per system requirements in pre cast moulds		2.5	0.5	2
	PC35. carry out vibration of the concrete using internal/external vibrators as per applicability		3.5	0.5	3
	PC36. ensure all embedded parts are intact during vibration		2.25	0.25	2
	PC37. ensure pre cast segment surface is finished as per specification		2.25	0.25	2
	PC38. identify the type of defect on the concrete surface such as: <ul style="list-style-type: none"> <li>air holes/voids</li> <li>bulges</li> <li>offset between joints</li> <li>honeycombing</li> </ul>		3.5	0.5	3
	PC39. notify superiors for type of defect and repair required		1.25	0.25	1
	PC40. ensure repair work is carried out only under the knowledge of superiors		1.25	0.25	1
	PC41. prepare a suitable mortar for filling the air holes/voids		2.25	0.25	2
	PC42. apply the mortar and rub using carborundum stone to obtain a flushed & smooth surface		2.5	0.5	2
	PC43. carry out chipping of the surface to remove bulges and offsets as per requirement		2.5	0.5	2
	PC44. carry out surface grinding to remove bulges and irregularities in concrete surface using sander / grinder		2.5	0.5	2
	PC45. ensure grinding is performed within acceptable levels		1.5	0.5	1
	PC46. fill narrow / wide cracks in concrete using appropriate filler / compounds		1.5	0.5	1
	PC47. ensure proper curing of repaired structure along with proper blending with the adjacent structure		1.25	0.25	1
		<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>
<b>CON/N8001: Work effectively in a team to deliver desired results at the workplace</b>	PC1. pass on work related information/ requirement clearly to the team members	<b>100</b>	10	2	8
	PC2. inform co-workers and superiors about any kind of deviations from work		5	1	4
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		5	1	4
	PC4. receive instructions clearly from superiors and respond effectively on same		5	1	4
	PC5. communicate to team members/subordinates for appropriate work technique and method		5	1	4



	PC6. seek clarification and advice as per requirement and applicability		10	2	8
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		30	6	24
	PC8. work together with co-workers in a synchronized manner		30	6	24
		<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>
<b>CON/N8002: Plan and organize work to meet expected outcomes</b>	PC1. understand clearly the targets and timelines set by superiors	<b>100</b>	10	2	8
	PC2. plan activities as per schedule and sequence		10	2	8
	PC3. provide guidance to the subordinates to obtain desired outcome		10	2	8
	PC4. plan housekeeping activities prior to and post completion of work		10	2	8
	PC5. list and arrange required resources prior to commencement of work		10	2	8
	PC6. select and employ correct tools, tackles and equipment for completion of desired work		10	2	8
	PC7. complete the work with allocated resources		10	2	8
	PC8. engage allocated manpower in an appropriate manner		10	2	8
	PC9. use resources in an optimum manner to avoid any unnecessary wastage		5	1	4
	PC10. employ tools, tackles and equipment with care to avoid damage to the same		5	1	4
	PC11. organize work output, materials used, tools and tackles deployed,		5	1	4
	PC12. processes adopted to be in line with the specified standards and instructions		5	1	4
			<b>Total</b>	<b>100</b>	<b>20</b>
<b>CON/N9001: Work according to personal health, safety and environment protocol at construction site</b>	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authorities	<b>100</b>	5	1	4
	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities		5	1	4
	PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable		10	2	8
	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		5	1	4
	PC5. identify near miss , unsafe condition and unsafe act		5	1	4
	PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including:		10	2	8



<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 and Body Protection</li> <li>• Respiratory Protection (if required)</li> </ul>				
PC7. handle all required tools, tackles , materials & equipment safely		5	1	4
PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines		5	1	4
PC9. install and apply properly all safety equipment as instructed		15	3	12
PC10. follow safety protocol and practices as laid down by site EHS department		15	3	12
PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes		10	2	8
PC12. apply ergonomic principles wherever required		10	2	8
	<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>