



# Model Curriculum

**QP Name: Assistant Rural Mason**

**QP Code: CON/Q3605**

**QP Version: 1.0**

**NSQF Level: 3**

**Model Curriculum Version: 1.0**

Construction Skill Development Council of India | Construction Skill Development Council of India (CSDCCI), CPB – 103 & 104, Block-4B, DLF corporate Park, Phase – III, MG Road Gurugram – 122002  
Near Guru Dronacharya Metro Station



# Table of Contents

Training Parameters.....	3
Program Overview .....	4
Training Outcomes.....	4
Compulsory Modules.....	4
Optional Modules .....	4
Module Details.....	7
Module 1: Introduction to Assistant Rural Mason job role .....	7
Module 2: Handle and use hand tools related to masonry, bar bending, shuttering carpentry and concreting works.....	8
Module 3: Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames.....	9
Module 4: Assist in concreting works and brick soling.....	10
Module 5: Assist in PCC flooring works.....	11
Module 6: Assist in fixing toilet pan and pipes in inspection chamber.....	12
Module 7: Assist in Random rubble Masonry works.....	13
Module 8: Assist in bar bending works.....	14
Module 9: Assist in shuttering carpentry Masonry works .....	15
Annexure.....	16
Trainer Requirements.....	16
Assessor Requirements.....	17
Assessment strategy.....	188
References.....	21
Glossary.....	21
Acronyms and Abbreviations.....	22



## Training Parameters

<b>Sector</b>	Construction Skill Development Council of India
<b>Sub-Sector</b>	Real Estate and Infrastructure Construction
<b>Occupation</b>	Masonry-Rural
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7112.0200 & 7114.9900
<b>Minimum Educational Qualification and Experience</b>	5th Class with 3 Years of experience OR 8th Class with 1 Year of experience OR Certificate-NSQF (level 2) with 1 Year of experience
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Approval Date</b>	31/03/2022
<b>QP Version</b>	1.0
<b>Model Curriculum Creation Date</b>	19/06/2021
<b>Model Curriculum Valid Up to Date</b>	31/03/2025
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	330 hrs
<b>Maximum Duration of the Course</b>	330 hrs



## Program Overview

This section summarizes the end objectives of the program along with its duration.

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Handle and use hand tools related to masonry, bar bending, shuttering carpentry works.
- Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames.
- Assist in concreting works and brick soling.
- Assist in PCC flooring works.
- Assist in fixing toilet pan and pipes in inspection chamber.
- Assist in Random Rubble Masonry works.
- Assist in bar bending works.
- Assist in shuttering carpentry works.

### Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration (hrs.)	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<i>Bridge Module:</i>	08:00	00:00	00:00	00:00	<b>08:00</b>
<b>CON/N3613 Handle and use hand tools related to masonry, bar bending, shuttering carpentry and concreting works</b> NOS Version No. 1.0 NSQF Level 3	<b>07:00</b>	<b>00:00</b>	<b>45:00</b>	<b>00:00</b>	<b>52:00</b>
Handle and use hand tools related to masonry, bar bending, shuttering carpentry and concreting works	07:00	00:00	45:00	00:00	52:00
<b>CON/N3614 Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames.</b> NOS Version No.1.0 NSQF Level 3	<b>15:00</b>	<b>00:00</b>	<b>45:00</b>	<b>00:00</b>	<b>60:00</b>



Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames.	15:00	00:00	45:00	00:00	60:00
<b>CON/N3615 Assist in concreting works and brick soling NOS Version No.1.0 NSQF Level 3</b>	<b>30:00</b>	<b>00:00</b>	<b>60:00</b>	<b>00:00</b>	<b>90:00</b>
Assist in concreting works and brick soling	15:00	00:00	75:00	00:00	90:00
<b>CON/3616 Assist in PCC flooring works NOS Version No.1.0 NSQF Level 3</b>	<b>15:00</b>	<b>00:00</b>	<b>45:00</b>	<b>00:00</b>	<b>60:00</b>
Assist in PCC flooring works	15:00	00:00	45:00	00:00	60:00
<b>CON/3617 Assist in fixing toilet pan and pipes in inspection chamber NOS Version No.1.0 NSQF Level 3</b>	<b>15:00</b>	<b>00:00</b>	<b>45:00</b>	<b>00:00</b>	<b>60:00</b>
Assist in fixing toilet pan and pipes in inspection chamber	15:00	00:00	45:00	00:00	60:00
<b>Total Duration</b>	<b>90:00</b>	<b>00:00</b>	<b>240:00</b>	<b>00:00</b>	<b>330:00</b>

## Optional Modules

The table lists the modules and their duration corresponding to the Optional NOS of the QP.

### Option 1: Random Rubble Masonry works

NOS and Module Details	Theory Duration (Hrs)	Practical Duration (Hrs)	On-the-Job Training Duration (Mandatory) (Hrs)	On-the-Job Training Duration (Recommended) (Hrs)	Total Duration (Hrs)
<b>CON/N3618 Assist in Random rubble Masonry works NOS Version No.1.0 NSQF Level 4</b>	<b>15:00</b>		<b>45:00</b>	--	<b>60:00</b>
Assist in Random rubble Masonry works	15:00		45:00	--	60:00
<b>Total Duration</b>	<b>15:00</b>		<b>45:00</b>	--	<b>60:00</b>



## Option 2: Bar Bending works

NOS and Module Details	Theory Duration (Hrs)	Practical Duration (Hrs)	On-the-Job Training Duration (Mandatory) (Hrs)	On-the-Job Training Duration (Recommended) (Hrs)	Total Duration (Hrs)
<b>CON/N3619 Assist in bar bending works</b> NOS Version No.1.0 NSQF Level 3	15:00		45:00	--	60:00
Assist in bar bending works	15:00		45:00	--	60:00
<b>Total Duration</b>	<b>15:00</b>		<b>45:00</b>	--	<b>60:00</b>

## Option 3: Shuttering Carpentry works

NOS and Module Details	Theory Duration (Hrs)	Practical Duration (Hrs)	On-the-Job Training Duration (Mandatory) (Hrs)	On-the-Job Training Duration (Recommended) (Hrs)	Total Duration (Hrs)
<b>CON/N3620 Assist in shuttering carpentry Masonry works</b> NOS Version No.1.0 NSQF Level 3	15:00		45:00	--	60:00
Assist in shuttering carpentry Masonry works	15:00		45:00	--	60:00
<b>Total Duration</b>	<b>15:00</b>		<b>45:00</b>	--	<b>60:00</b>



# Module Details

## Module 1: Introduction to Assistant Rural Mason

### Bridge Module

#### Terminal Outcomes:

- Explain the role and responsibilities of a Assistant rural mason.
- Discuss the career progression options for a Assistant rural mason.

<b>Duration:</b> 08:00	<b>Duration:</b> 00:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>• Discuss the role and responsibilities of the job role of assistant rural mason.</li><li>• Define the personal attributes required in the masonry- rural occupation.</li><li>• Explain the future career progression for the assistant rural mason.</li></ul>	
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
N.A.	



## Module 2: Handle and use hand tools related to masonry, bar bending, shuttering carpentry and concreting works

*Mapped to CON/N3613, v 1.0*

### Terminal Outcomes:

- Handle and use hand tools related to masonry, bar bending, shuttering carpentry works.

<b>Duration:</b> 07:00	<b>Duration:</b> 45:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List different type of tools for masonry, bar bending, shuttering carpentry and concreting works and their maintenance and care.</li> <li>• Discuss the use of different tools for masonry, bar bending, shuttering carpentry and concreting works.</li> <li>• List materials used in masonry, bar bending, shuttering carpentry and concreting works</li> <li>• List basic levelling devices, their setting and use.</li> <li>• Explain the process of transferring levels using basic levelling devices.</li> </ul>	<ul style="list-style-type: none"> <li>• Select and use basic tools used such as: measurement tape, levelling tools (plumb bob, spirit level, line thread), masonry tools (trowel, mortar pan, pointing trowel, bolster chisel, spade, right angle etc.), carpentry tools (hammer, hand saw, nail puller, etc.), bar bending tools, spanners, cutters, concrete floats, check for serviceability/safety of tools and report faults to superiors.</li> <li>• Set up basic levelling devices like spirit level, water level &amp; straight edge.</li> <li>• Aid in transferring levels and setting out using appropriate tools.</li> <li>• Clean and maintain tools prior to and after use.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason’s hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, floats, vibrators, hand operated, concrete mixer, Mortar mixing, board/mortar pan	



## Module 3: Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames

*Mapped to CON/N3614, v 1.0*

### Terminal Outcome:

- Assist in marking of foundation, wall and soak pit and brick/block works including fixing door and window frames.

<b>Duration:</b> 15:00	<b>Duration:</b> 45:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>Discuss the standard practices of marking layouts &amp; brick/block work including fixing door and windows.</li> <li>List the safety rules and regulation for handling and storing required masonry tools, equipment and materials</li> <li>List the basics of masonry works.</li> <li>Discuss the various techniques / procedures for cutting different types of bricks to required sizes.</li> <li>Discuss the different bonds in brickwork.</li> <li>Discuss the importance of different mix of mortar required for brick/block and pointing works.</li> <li>Discuss the basic methods and techniques of preparing bed mortar, cement slurry and cement paste.</li> <li>Explain the marking of dummy dots for transfer of levels</li> <li>Explain how to align the frames and checking the hold fast position.</li> <li>Explain how to anchor frames to walls and fill gap between wall and frames.</li> </ul>	<ul style="list-style-type: none"> <li>Select the tools and materials required for marking layouts &amp; brick/block.</li> <li>Check to ensure the base surface in free of dust, dirt &amp; debris prior to commencement of work.</li> <li>Aid in passing the correct tools as per the requirement.</li> <li>Perform sieving of fine aggregate as per requirement/instructions.</li> <li>Carry out mixing of cement and mortar in the required quantity.</li> <li>Aid in setting out the layouts for foundation, wall and soak pits as per the instructions.</li> <li>Aid in placing and fixing of brick/block for brick works.</li> <li>Aid in spreading mortar using trowel to the required thickness as per instructions</li> <li>Carry out removal of excess mortar from face of wall keeping surface clean.</li> <li>Carry out pointing for brick/block work.</li> <li>Assist in fixing of doors and window frames.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason's hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, floats, vibrators, hand operated, concrete mixer, Mortar mixing, board/mortar pan	



## Module 4: Assist in concreting works and brick soling

*Mapped to CON/N3615, v 1.0*

### Terminal Outcome:

- Assist in concreting works and brick soling.

<b>Duration: 30:00</b>	<b>Duration: 60:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>List use basic tools and tackles for concreting works.</li> <li>Discuss the basic techniques for surface preparation for various surfaces.</li> <li>List the properties of concrete including weight, slump, etc.</li> <li>Explain how to perform batching and mixing of materials for concreting.</li> <li>Explain how to screed the concrete to correct levels.</li> <li>Explain the appropriate technique for pouring of concrete in the form of layers.</li> <li>Explain how to ensure proper curing .</li> <li>List the different type of PCC flooring works.</li> <li>Explain the process of brick soling and PCC flooring.</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>Select the tools and materials for concreting works.</li> <li>Perform sieving of fine aggregate as per requirement/instructions in case of manual mixing of concrete.</li> <li>Carry out proper mixing of cement mortar /concrete in the required quantity for relevant work.</li> <li>Perform manual concrete batching and mixing as per instructions of superior.</li> <li>Aid in pouring of concrete mix into the forms for casting under close supervision.</li> <li>Carry out proper compaction of concrete using tamping rods.</li> <li>Aid in levelling and finishing of concrete as per instructions using appropriate tools.</li> <li>Aid in laying bricks course over the compacted fill.</li> <li>Perform filling of gap in bricks with sand / suitable filling material.</li> <li>Aid in checking the level of finished surface.</li> </ul>
<p><b>Classroom Aids:</b></p> <p>Computer, printer, projector, white board/ flip chart, marker and duster</p>	
<p><b>Tools, Equipment and Other Requirements</b></p> <p>Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason’s hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, floats, vibrators, hand operated, concrete mixer, Mortar mixing, board/mortar pan</p>	



## Module 5: Assist in PCC flooring works

### Mapped to CON/N3616, v 1.0

#### Terminal Outcome:

- Assist in PCC flooring works.

<b>Duration: 15:00</b>	<b>Duration: 45:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>Explain the standard practices of concreting, PCC flooring works.</li> <li>Explain the use basic tools and tackles for PCC flooring works.</li> <li>Explain the basic techniques for surface preparation for various surfaces.</li> <li>Explain the basic properties of concrete including weight, slump, etc.</li> <li>Explain how to perform batching and mixing of materials for concreting.</li> <li>Explain how to screed the concrete to correct levels.</li> <li>Explain the appropriate technique for pouring of concrete.</li> <li>Explain how to ensure proper curing as per the instruction.</li> <li>List the different baton strips and their uses.</li> <li>Explain the process of PCC flooring.</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>Perform sieving of the fine aggregate as per requirement/instructions for relevant work.</li> <li>Perform proper mixing of cement and mortar in the required quantity for relevant work.</li> <li>Perform manual concrete batching and mixing as per instructions to prepare mix of appropriate ratio.</li> <li>Aid in pouring of concrete mix for flooring work under close supervision.</li> <li>Carry out proper compaction of concrete using tamping rods.</li> <li>Aid in levelling and finishing of concrete as per instructions using appropriate tools.</li> <li>Carry out curing of finished surface as per instructions.</li> <li>Fix baton strips on the floors for making panels as per requirement.</li> <li>Carry out the screeding of PCC over the brick soling.</li> </ul>
<p><b>Classroom Aids:</b></p> <p>Computer, printer, projector, white board/ flip chart, marker and duster</p>	
<p><b>Tools, Equipment and Other Requirements</b></p> <p>Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason’s hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, floats, vibrators, hand operated, concrete mixer, Mortar mixing, board/mortar pan</p>	



## Module 6: Assist in fixing toilet pan and pipes in inspection chamber

### Mapped to CON/N3617, v 1.0

#### Terminal Outcome:

- Assist in fixing toilet pan and pipes in inspection chamber.

<b>Duration: 15:00</b>	<b>Duration: 45:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Explain the general layout of toilet.</li> <li>• Explain the purpose and importance of toilet.</li> <li>• Explain the components of twin pit soak pit.</li> <li>• Explain the importance of junction box.</li> <li>• Explain the connection of junction box.</li> <li>• Explain the importance of water seal.</li> <li>• Explain the purpose of water seal.</li> <li>• Explain the sequence of activities in toilet construction.</li> <li>• Explain the process used to position the toilet seat.</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Aid in marking layout of pit.</li> <li>• Aid in construction of footing for pit.</li> <li>• Aid in constructing the soak pits and inspection chamber.</li> <li>• Aid in fixing the toilet pan temporarily for levelling.</li> <li>• Carry out levelling of the toilet pan horizontally, and assist in fixing it at plinth level.</li> <li>• Connect pipe extending to junction box.</li> </ul>
<p><b>Classroom Aids:</b></p> <p>Computer, printer, projector, white board/ flip chart, marker and duster</p>	
<p><b>Tools, Equipment and Other Requirements</b></p> <p>Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason’s hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, floats, vibrators, hand operated, concrete mixer, Mortar mixing, board/mortar pan</p>	



## Option 1

### Module 7: Assist in Random rubble Masonry works

Mapped to CON/N3618, v 1.0

#### Terminal Outcome:

- Assist in Random Rubble Masonry works.

<b>Duration: 15:00</b>	<b>Duration: 45:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Explain the basics of random rubble masonry works.</li> <li>• Explain the use of the basic masonry tools and equipment such as measurement tape, trowel, mortar pan, hammer, etc.</li> <li>• Explain the use of basic levelling devices like plum bob, spirit level, water level, their setting and use.</li> <li>• Explain the various techniques / procedures for cutting different types of bricks to required sizes.</li> <li>• Explain how to assist to lay and fix stones with alignment under supervision.</li> <li>• Explain the through stone and key stone in random rubble masonry works.</li> <li>• Explain the importance of different mix of mortar required for random rubble masonry works and pointing works.</li> <li>• Explain the basic methods and techniques of preparing bed mortar, cement slurry and cement paste.</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Select the correct type of tools and materials required for Random rubble Masonry works.</li> <li>• Carry out/ensure soaking of stones and pre-wetting of base surface prior to commencement of work.</li> <li>• Sieve the fine aggregate as per requirement/instructions.</li> <li>• Mix cement and mortar in the required quantity for Random rubble Masonry works.</li> <li>• Demonstrate the transferring of levels using basic levelling devices.</li> <li>• Assist in placing and fixing of stones for Random rubble Masonry works.</li> <li>• Aid in spreading mortar using trowel to the required thickness as per instructions.</li> <li>• Carry out pointing works by mixing mortar for pointing and cleaning Random rubble masonry.</li> </ul>
<p><b>Classroom Aids:</b></p> <p>Computer, printer, projector, white board/ flip chart, marker and duster</p>	
<p><b>Tools, Equipment and Other Requirements</b></p> <p>Tool box with lock and key, measuring tape/rule, Scale, Steel square, Trowel, Water level, Spirit level, Plumb bob, Straight edge, Mason’s hammer, String line, Jointers, Mallets, Wedges, Screeds, Floats, Bolster chisel, rubber/wooden, hammers, Spade, Sponge, Volume box, weighing balance, Mortar mixing, board/mortar pan</p>	



## Option 2

### Module 8: Assist in bar bending works

Mapped to CON/N3619, v 1.0

#### Terminal Outcome:

- Assist in bar bending works.

<b>Duration: 15:00</b>	<b>Duration: 45:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>List the various type of bar, their grades and diameter.</li> <li>Explain the use of hand tools for straightening of rebar.</li> <li>List the tools for cutting rebar manually.</li> <li>List the hand tools for reinforcement works.</li> <li>Explain the use of measurement and marking tools.</li> <li>Explain the importance of sorting and stacking cut piece rebar on the basis of length and diameter.</li> <li>Explain the use of binding wire.</li> <li>List the different types of ties such as slash tie, ring slash tie, hairpin tie, ring hairpin tie, crown tie, splice tie.</li> <li>Explain how to tie reinforcement using different types of ties.</li> <li>List the length of binding wire required for different types of ties.</li> <li>List the tolerances for bending and cutting of rebar.</li> <li>Perform the calculation of cutting length for simpler shape, stirrups, chairs.</li> </ul>	<ul style="list-style-type: none"> <li>Select reinforcement bar of different types, grade and diameter, different types of binding wires such as mild steel, galvanized iron wire.</li> <li>Demonstrate the use of hand tools such as lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate and other relevant tools used in reinforcement works.</li> <li>Demonstrate the use of bending lever and pipe for straightening of rebar of different diameter.</li> <li>Mark cut length and cut rebar of smaller diameter manually using chisel and sledge hammer as per requirement.</li> <li>Mark on rebar, use lever or pipe of suitable diameter for bending of rebar.</li> <li>Mark on bending bench for making stirrups, chairs, hanger bars.</li> <li>Bend bars to required shape and angle manually and check for accuracy.</li> <li>Stack reinforcement bars as per standard practice.</li> <li>Straighten the reinforcement bar with bends and cut from the coils.</li> <li>Demonstrate the tying reinforcement using different ties as per requirement.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate measuring tape, safety shoes, safety gloves, bending lever and pipe	



### Option 3

## Module 9: Assist in shuttering carpentry Masonry works

Mapped to CON/N3620, v 1.0

### Terminal Outcome:

- Assist in shuttering carpentry works.

Duration: 15:00	Duration: 45:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the use of hand tools such as claw hammer, hand saw, hack saw wooden planners, measuring tape, nailing hammer, try square, plumb bob and other relevant tools.</li> <li>• Explain the visual checks for quality of timber and plywood.</li> <li>• Explain the visual check for quality of timber and plywood.</li> <li>• Explain the different types of hand and power tools used for cutting and planing of timber.</li> <li>• Explain the use of measurement and marking tools.</li> <li>• Explain the process of storage of timber to prevent decay distortion, bending, splitting etc.</li> <li>• List the various types of timber joints.</li> <li>• Explain the use of water level tube, spirit level, plumb bob, tri-square.</li> <li>• Explain how to provide support in shuttering works.</li> <li>• Explain how to tie various types of knots and its use.</li> <li>• Explain the standard procedure for assembling and dismantling conventional formwork.</li> </ul>	<ul style="list-style-type: none"> <li>• Select and demonstrate the use of hand tools such as claw hammer, hand saw, wooden planers, chisel, hand file, measuring tape, try square, hand auger and other relevant tools.</li> <li>• Select different types of wood &amp; plywood</li> <li>• Use measurement and marking tools for correct sizing of timber/plywood.</li> <li>• Make timber joint such as lap joint, mortis and tenon joints, dovetail joints and housing joint using appropriate hand tools.</li> <li>• Cut and size timber/ plywood of required size for making shutter boards.</li> <li>• Assist in marking, cutting and sizing of timber for making shutter boards.</li> <li>• Carry out nailing works in making of shutter boards as per instructions.</li> <li>• Transfer level from reference points using water level</li> <li>• Check and ensure jute thread is kept in water before using it for tying of bamboo, ballis.</li> <li>• Assist in erecting staging for shuttering using conventional formwork.</li> <li>• Assist and place props and shuttering boards at marked location as per instructions.</li> <li>• assist in aligning and providing support to shutter boards as per instructions using ballis, wooden battens, pipes and props.</li> <li>• assist in checking line, level and alignment and making corrective action if required.</li> <li>• assist in de-shuttering.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Trowel, shovel, spade, pick axe, rammer, wheel barrow, lime powder, wooden peg, hammer, hand roller, source of water, ladder, measuring tape, safety shoes, safety gloves, claw hammer, hand saw, wooden planers, chisel, hand file, measuring tape, try square, hand auger	



# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Post-Graduation/Graduation	M. Tech /B. Tech	Six months	Civil Engineering	0	Civil Engineering	Since pre-requisites are for new entrant, no prior experience in training /assessors are mandatory. If someone with prior experience in requisite domain, joins, experience will be measured as relevant industry experience
Diploma	Diploma	One Year	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12 <sup>th</sup> pass	Any Graduation/ certificate from Army/ITI certificate in relevant trade/12 <sup>th</sup> pass	Two Years	Working as mason, masonry domain, supervisory work of masonry work	0	Working as mason, masonry domain, supervisory work of masonry work	

Trainer Certification	
Domain Certification	Platform Certification
Trainer- 80% in each NOS of Qualification Pack “Helper Rural Mason, CON/Q03604 v1.0” and 80% overall	Trainers - 80% in each NOS of Qualification Pack “MEP/Q2601, v1.0”and 80% overall



## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Post-Graduation/Graduation	M. Tech /B. Tech	One Year	Civil Engineering	0	Civil Engineering	As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However, if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience
Diploma	Diploma	Two Years	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12th pass	Any Graduation/ certificate from Army/ITI certificate in relevant trade/12th pass	Three Years	Working as mason, masonry domain, supervisory work of masonry work	0	Working as mason, masonry domain, supervisory work of masonry work	

Assessor Certification	
Domain Certification	Platform Certification
Assessor- 80% in each NOS of Qualification Pack "Helper Rural Mason, CON/Q03604 v1.0" and 80% overall	Assessor-80% in each NOS of Qualification Pack "MEP/Q2701, v1.0", and overall 80%



## Assessment strategy

### Assessment system Overview

Assessment is done through CSDCI affiliated Assessment Body. Assessors are trained & certified by CSDCI after a 10-day training of assessor's program. Assessments is conducted to gauge and assess the trainee's skill and knowledge competency in the specified areas. The assessment will have both theory and practical components in 20:80 ratio for Helper Rural mason job role

During the practical task, trainees are assessed on their workmanship, quality of finished product and time management. They will be graded for all their assessments based on the approved assessment strategy which is signed off by CSDCI. The Assessor submits an assessment plan to CSDCI prior to assessments

The assessment plan contains the following information:

- What will be assessed, i.e. the competency based on each NOS based on theory and practical questions
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- duration of assessment
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- The criteria for decision making i.e. those aspects that will guide judgments and
- Where appropriate, any supplementary criteria used to make a judgment on the level of performance.

### Testing Environment

Training partner shares the batch start date and end date, number of trainees and the job role.

Assessment will be fixed for a day after the end date of training. It could be next day or later.

Assessment will be conducted at the training venue/test center.

The knowledge/theory assessments are conducted with proper seating arrangements with enough space between the candidates to prevent copying.

Question set for theory and practical will be distributed to each candidate by the Assessor. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on his theoretical knowledge of the subject. The skill /practical assessments will be conducted in the approved test centers. The Assessment agency/ Assessor will ensure adequate tools and materials are available to conduct the practical test.

The theory and practical assessments will be carried out on same day. If number of candidates are more than 20, more assessors will be organized on same day to complete the assessment

The assessment has to comprise of two components, namely:

1. Knowledge assessment (theory/viva assessment)
2. Skill assessment (practical/hands-on skill assessment)



### Mode of assessment

1. Demonstration/Practical for Performance /Skill Assessment
  2. Synoptic multiple choice question test
  3. Viva
- } For Knowledge Assessment

**Performance/skill assessment:** The performance/skill assessment will be conducted through demonstration/practical

For the practical test trainees are assessed through a given task, which they have to complete correctly for them to be marked as passed.

The assessment is conducted in a simulated working environment. Due to this fact, the assessors must note that the naturally occurring evidence of competence is unavailable or infrequent. Simulation must be undertaken in a Realistic Working Environment which provides an environment that replicates the key characteristics of the workplace in which the skill to be assessed is normally employed.

**Knowledge Assessment:** The knowledge assessments are conducted through written test/ viva.

Synoptic test is used for this. It is an MCQ (Multiple Choice Question) test which are prepared externally and externally marked, meaning by agency having no link with training partners. The test may be conducted by the assessor in the oral mode, if required, considering the lack of reading and comprehending acumen (skills) of trainees. In such cases, the assessor will mention it on top of the MCQ submitted to CSDCI.

The assessment strategy, weightage and duration of assessment for helper mason is summarized below:

Assessment Type	Formative or Summative	Strategies	Weightage	Duration (hours)
Knowledge	Summative	MCQ/Viva	20	1.0
skill	Summative	Structured practical task	80	5.0

### Assessment Quality Assurance framework

CSDCI has developed assessment criteria framework for each Qualification pack as per National Occupational Standards. The criteria framework includes weightages/marks for each criterion under knowledge and skill. This criterion ensures quality assurance as it ensures valid, consistent and fair assessments at all locations. Issued to the affiliated Assessment body. The Assessment body develop questions based on CSDCI issued assessment criteria.

Evidences in the form of answer sheets in case of knowledge assessments are collected. For skill assessments videos and photographs are prepared as evidence. These are submitted by the assessor to



the assessment agency. CSDCI does random checks of the same with the participant/ trainee's ID and ascertains authenticity and validity of assessments.

The training partner will intimate the time of arrival of the assessor and time of leaving the venue. Random spot checks/audit is conducted by CSDCI to monitor assessment.

### ***Methods of Validation***

Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, id verification is carried out. Aadhar card number is part of registering the candidate for training. This forms the basis of further verification during the assessment.

Assessor conducts the assessment through theory and practical questions developed in accordance with the assessment criteria and guidelines issued by CSDCI. This too is verified by random audits carried out by CSDCI. The assessments may also be carried out on line.

Evidences for assessments are to be collected and submitted to CSDCI for verification as per demand.

Assessment agency is responsible to put details in SIP. CSDCI will also validate the data and result received from the assessment agency.

### ***Method of assessment documentation and access***

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by CSDCI assessment team. After upload, only CSDCI can access this data.

CSDCI approves the results within five days after results are uploaded on SIP by Assessment Agency.



## References

## Glossary

Term	Description
<b>Declarative Knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
<b>Key Learning Outcome</b>	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
<b>OJT (M)</b>	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site.
<b>OJT (R)</b>	On-the-job training (Recommended); trainees are recommended the specified hours of training on site.
<b>Procedural Knowledge</b>	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module</b> . A set of terminal outcomes help to achieve the training outcome.



## Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
CSDCI	Construction Skill development Council of India
MCQ	Multiple Choice Question