



Model Curriculum

Assistant Mason

SECTOR: CONSTRUCTION
**SUB-SECTOR: REAL ESTATE AND
INFRASTRUCTURE CONSTRUCTION**
OCCUPATION: MASONRY
REF. ID: CON/Q0102, VERSION 1.1
NSQF LEVEL: 2



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: '**Assistant Mason**' QP No. '**CON/Q 0102 NSQF Level 2**'

Date of Issuance: **December 31st, 2015**

Valid up to: **May 23rd, 2017**

* Valid up to the next review date of the Qualification Pack

Authorised Signatory
(Construction Skill Development Council)



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Assistant Mason

CURRICULUM / SYLLABUS

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

Program Name	Assistant Mason		
Qualification Pack Name & Reference ID.	CON/QO102		
Version No.	1.1	Version Update Date	23-05 – 2015
Pre-requisites to Training	Preferably 5 th standard		
Training Outcomes	After completing this program, participants will be able to: <ul style="list-style-type: none">• Gain insight into Assistant Mason job role and its career progression :- Introduction to assistant mason job role ,its roles and responsibilities and its career progression• Erect and dismantle temporary scaffold of 3.6-meter height: - Standard procedure for erection & dismantle of 3.6-meter temporary scaffold• Handle and use hand and power tools related to masonry work: - Various hand and power tools & Equipment used in masonry work, their specifications & quality. Right selection of tools & equipment and their upkeep.• Assist in tiling, stone laying and concrete masonry works: - Assistance required in tiling, stone laying and concrete masonry works.• Assist in Brick/ Block including fixing doors and windows and plastering works: - Assistance required in brick/ block including fixing doors and windows.• Work effectively in a team to deliver results at a construction site: - Prioritizing activities and organising resources to meet desired outcome• Work according to personal health, safety and environment protocol at construction site: - Importance of Health & Safety aspects & measures to be followed while working		

This course encompasses 6 out of 6 National Occupational Standards (NOS) of “Assistant Mason” Qualification Pack issued by “Construction Skill Development Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction job role</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> • General Discipline in the class room. • Basic knowledge of Unit & measurement & arithmetic calculation. • Basic term used and types of masonry works. • Role of an Assistant Mason & job opportunities. 	<ol style="list-style-type: none"> 1. Classroom having seating requirement for 30 people. 2. Projector 3. Toilet/Urinals (Separate for gents and Ladies) 4. Blackboard
2	<p>Erect and dismantle temporary scaffold of 3.6 meter height</p> <p>Theory Duration (hh:mm) 14:00</p> <p>Practical Duration (hh:mm) 26:00</p> <p>Corresponding NOS Code CON/N0101</p>	<p>Theory: -</p> <ul style="list-style-type: none"> • What is scaffolding and its purpose of its erection • Common materials and tools used for erection of scaffolding (pipe, cup lock (vertical and ledgers), H-frames, Bamboo & Bali • Characteristics of ideal base of scaffolding and its preparation • Visual checks to be carried out on the scaffolding components to ascertain their usability • Different components of a temporary scaffolding such as base, toe board, guard rails, platform, walkways, ladder etc., their function and placing • Spacing/ height to be provided among different components of a temporary scaffold • Safety measures to be followed while tightening, fixing/ assembling different part of scaffold together • Function of different hand tools like hammer, spanner, pulleys, hooks, ropes etc. used for erection/ dismantling of scaffolds. • Use of different scaffolding accessories like different kind of clamps, washers, props, bracings and other supporting members • Standard method of erecting & dismantling 3.6 m temporary scaffold. • Material handling and shifting methods while scaffolding erection/ dismantling is under 	<p>Hand tools</p> <ol style="list-style-type: none"> 1. Hammer 2. Spanner (set) 3. Wrench 4. Pulley 5. Rope 6. Nuts and bolts <p>Measuring Instruments</p> <ol style="list-style-type: none"> 7. Measuring tape 8. Spirit level 9. Plumb-bob 10. Mason's line <p>Materials</p> <ol style="list-style-type: none"> 11. Cup-lock scaffolding components (set) 12. 40 NB pipes 13. Swivel coupler 14. Fixed clamp 15. Steel walers 16. Steel walkways 17. Aluminium/ GI ladder 18. Safety net <p>PPEs & safety equipment's</p> <ol style="list-style-type: none"> 19. Helmet 20. Safety shoes 21. Safety belt 22. Cotton hand gloves 23. Goggles 24. Reflective jackets 25. Safety message boards

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>process</p> <ul style="list-style-type: none"> Standard safety procedure while working at height. Checks to be done on completion of erection of scaffolds, such as verticality check, stability check <p>Demonstration/ practical: -</p> <ul style="list-style-type: none"> Sort and shift scaffolding material from stock yard to space of erection Clean the area of the scaffolding and prepare the base Erect scaffolds of 3.6 mtr. height using pipes and cup locks using appropriate hand tools Use clamp and other supporting members to ensure stability and verticality of the scaffolds Place different components of scaffolds such as base plate, vertical/ horizontal members, toe boards, guard rails, platforms/ walkways, ladder etc. as per standard practice Use PPEs as per necessity of the task Dismantle the whole scaffold and stack their components as per standard practice 	
3	<p>Handle and use hand and power tools related to masonry work</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code CON/N0105</p>	<p>Theory: -</p> <ul style="list-style-type: none"> Different types of masonry related hand tools and their functions. Knowledge of basic levelling devices such as water level, spirit level etc. and standard procedure for transferring level. Upkeep and safe handling practices required for the tools used. Mason's equipment such as ladder, step scaffolding, trestle etc, basic terminology & uses. Knowledge of indent procedure and its importance <p>Demonstration/Practical: -</p> <ul style="list-style-type: none"> Identification of basic hand tools, measuring tools, power tools etc. Level transferring using basic levelling device. Description, use, care and maintenance of power and hand tools used for masonry work. Right selection and use of manual and power tools as per application. 	<p>Hand Tools</p> <ol style="list-style-type: none"> Trowel Mason's hammer String line Jointers Mallets Wedges Screeds Floats Bolster chisel Spade <p>MEASURING TOOLS</p> <ol style="list-style-type: none"> Measuring tape Scale Steel square <p>POWER TOOLS</p> <ol style="list-style-type: none"> Power wet saws Electric drills Tile cutters Vibrators Grinders Concrete mixer <p>LEVELLING DEVICES</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			20. Water level tube 21. Spirit level 22. Plumb bob PPE'S 23. Safety helmets 24. Hand gloves 25. Safety shoes 26. Safety harness 27. Nose mask
4	Assist in tiling, stone laying and concrete masonry works Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 68:00 Corresponding NOS Code Bridge Module	Theory: - <ul style="list-style-type: none"> Standard practices involved in tiling and stone laying, concreting works and brick soling and PCC flooring. Understanding hand sketches and simple drawings to compute dimensions, understand the position and orientation of sections for marking etc. Basic tools and tackles used for tiling/ stone laying and concreting. Safety precautions to be taken while handling power tools. Types of tiles their physical properties and application as per use. Basic method and techniques of preparing bed mortar, cement slurry and cement paste required for the tile laying / stone laying. Basic techniques for surface preparation. Importance of hacking of R.C.C. structures Basic properties of concrete including weight, slump, etc. and its batching according to the specified grade. Process of preparation of cement mortar. Appropriate techniques for pouring of concrete in the form of layers for concreting walls and its screeding to correct levels in case of P.C.C. flooring/ slab concreting. Process of brick soling and PCC flooring and its different types. Demonstration/Practical: - <ul style="list-style-type: none"> Identification of the correct tools and materials required for relevant task. Demonstrate transferring, handling and proper stacking of tiles, granite and stones. How to Check and Ensure that the surface is free of dust, dirt, debris and loose concrete laitance for the evenness of surface prior to laying tiles/stones, concreting and flooring works. Proper sieving of aggregates. 	Hand Tools <ol style="list-style-type: none"> Trowel Mason's hammer String line Steel square Jointers Measurement tape Mallets Wedges Screeds Floats Bolster chisel Spade POWER TOOLS <ol style="list-style-type: none"> Power wet saws Electric drills Tile cutters Vibrators Grinders Concrete mixer LEVELLING DEVICES <ol style="list-style-type: none"> Water level tube Spirit level Plumb bob PPE'S <ol style="list-style-type: none"> Safety helmets Hand gloves Safety shoes Safety harness Nose mask

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> Manual concrete batching and mixing as per the nominal mix. Demonstrate proper mixing of cement and mortar in the required quantity for relevant work. Proper pre-wetting of tiles, stones, base surface and bricks. Levelling, marking dummy dots, spreading mortar using trowel to the required thickness and arranging tiles and put spacers as per the design plan. Demonstrate proper compaction of concrete using vibrator or other appropriate tools. Demonstrate curing of finished surface. 	
5	<p>Assist in brick/ block work including fixing doors and windows and plastering work</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 68:00</p> <p>Corresponding NOS Code CON/N0107</p>	<p>Theory: -</p> <ul style="list-style-type: none"> Different types of masonry tools, their uses and their maintenance and care. Safety precautions to be taken while handling power tools. Basic leveling devices like plum bob, spirit level, their uses and transferring level. Understanding hand sketches and simple drawings to compute dimensions, understand the position and orientation of sections for marking etc. Laying and fixing of bricks/ blocks in position with alignment Different types of bonds and mix of mortar required for block/ brick work Process of preparation of cement mortar. Standard size of door/ window, type of materials and fittings used. process of alignment of the frames, checking the holdfast position, anchorage of frames to wall and filling of gap between wall and frames. <p>Demonstration/Practical: -</p> <ul style="list-style-type: none"> Identification of the correct type of tools and materials for relevant task. Demonstration of pre-wetting of the base surface prior to plastering. Proper transfer, handling and overall storage and staking of bricks / blocks. Demonstrate how to Check and Ensure that the surface is free of dust, dirt, debris and loose concrete laitance for the evenness of surface prior to laying bricks/ blocks and plastering. Proper sieving of aggregates. Proper mixing of cement and mortar in the required quantity for relevant work. Setting out the layouts and marking location of doors and windows to be fixed. 	<p>Hand Tools</p> <ol style="list-style-type: none"> Trowel Mason's hammer String line Jointers Mallets Wedges Screeds Floats Bolster chisel Spade <p>MEASURING TOOLS</p> <ol style="list-style-type: none"> Steel scale Measuring tape Spirit level Steel square <p>POWER TOOLS</p> <ol style="list-style-type: none"> Power wet saws Electric drills Tile cutters Vibrators Grinders Concrete mixer <p>LEVELLING DEVICES</p> <ol style="list-style-type: none"> Water level tube Spirit level Plumb bob <p>PPE'S</p> <ol style="list-style-type: none"> Safety helmets Hand gloves Safety shoes Safety harness Nose mask

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • Building of bricks according to the different type of bonds. • Checking of the holdfast position, proper alignment of frame and grouting of • Fixing of standard sections for wooden/ metal windows, doors and ventilator frames. • Demonstrate how to Check and measure the basic dimensions of the room/floor/walls like slope, right angle & surface plane during plastering. • Level transferring to the required thickness of plastering, mark dummy dots and apply cement slurry on surface to be plastered. 	
6	<p>Work effectively in a team to deliver desired results at the workplace</p> <p>Theory Duration (hh:mm) 15:00</p> <p>Practical Duration (hh:mm) 09:00</p> <p>Corresponding NOS Code CON/N8001</p>	<p>Theory: -</p> <ul style="list-style-type: none"> • Method of oral and written communication skills with co-workers, trade seniors while handling and carrying out visual checks on various power or hand tools such as power saw, power wet saws, vibrators, tile cutters etc. • Reading and interpretation of masonry works formats, permits, protocols, checklists • How to interpret scope of masonry activities, material/ tools handling by adhering to instructions or consulting with seniors • Method of providing instruction to subordinates or reporting to seniors clearly and promptly • Seek necessary support and complete assigned tasks within stipulated time duration • Keep good relation and maintain well behavior with co-workers <p>Demonstration/ Practical (D/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"> • Selection of materials, tools or devices for defined purpose under • Handling of masonry tools and tackles and materials involved in masonry work. • Carrying out level transferring. • Carrying out mixing of concrete according to the requirement. • Carrying layout works and proper fixing of door and window frames. • Selection and handing over of desired/ appropriate tools/ materials while assisting trade senior 	<ol style="list-style-type: none"> 1. Classroom having seating requirement for 30 people. 2. Urinals (male/female) separate 3. Projector 4. Blackboard

Sr. No.	Module	Key Learning Outcomes	Equipment Required
7	<p>Work according to personal health, safety and environment protocol at construction site</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm) 24:00</p> <p>Corresponding NOS Code CON/N9001</p>	<p>Theory: -</p> <ul style="list-style-type: none"> • Types of hazards involved in construction sites • Types of hazards involved in electrical works • Emergency safety control measures and actions to be taken under emergency situation • Concept of: - First Aid process Use of fire extinguisher Classification of fires and fire extinguisher Safety drills Types and use of PPEs as per general and electrical safety norms • Reporting procedure to the concerned authority in emergency situations • Standard procedure of handling, storing and stacking material, electrical fixtures and accessories • What is safe disposal of waste, type of waste and their disposal • Type of electrical protective devices, their power ratings and area of application • basic ergonomic principles as per applicability <p>Demonstration/ Practical (D/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"> • Selection of PPEs and use them appropriately as per working need of electrical operations, handling, storing, stacking and shifting of electrical fixtures, light units, tools and devices • Selection of PPEs and use them appropriately as per working need of cutting conduit, drilling in walls, termination at the main power source • Analysis of hazards involved to electrical circuits/ connections by external effects and taking necessary steps or informing to seniors • Identification of locations, situations/ circumstances, malpractices which can be hazardous for general or electrical works • Selection of fire extinguisher based on classification of fire, standard practice of storing & stacking firefighting equipment/ materials at work locations • Disposal of waste materials as per their nature and effects on weather 	<ul style="list-style-type: none"> • safety helmet • reflecting jackets • Safety Belts • safety shoes • gum shoes • hand gloves • fire extinguisher • safety boards • nose mask • ear plug • first aid box



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Total Duration: 350 Hrs. Theory Duration 121 Hrs. Practical Duration 229 Hrs.	Unique Equipment Required: Classroom having seating requirement for 30 people, Toilet/Urinals (Separate for gents and Ladies), Projector, Blackboard, Work shop for practical assessment, Tool box with lock and key, Measuring tape/rule, Masons line, Plumb bob, Try Square, Trowel, Mason's hammer, String line, Steel square, Jointers, Measurement tape, Mallets, Wedges, Screeds, Floats, Bolster chisel, Power wet saws, Electric drills, Tile cutters, Vibrators, Grinders, Concrete mixer, Safety Helmets, Face shield, Overalls, Knee pads, Safety shoes, Safety belts, Safety harness, Safety Gloves, Safety goggles, Particle masks, Ear Plugs, Reflective jackets, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board	

Grand Total Course Duration: 350 Hours 00 Minutes

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



Annexure: Assessment Criteria

Assessment Criteria for Assistant Mason	
Job Role	Assistant Mason
Qualification Pack	CON/Q0102
Sector Skill Council	Construction

Sr. No.	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 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 time frame set by SSC.
10	Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC21. perform manual concrete batching and mixing as per instruction to prepare mix of appropriate ratio	100	5	1	4
	PC22. pour concrete mix into the forms and casts under close supervision		5	1	4
	PC23. assist in passing the correct tools as per the requirement		2.5	0.5	2
	PC24. ensure proper mixing of cement and mortar in the required quantity for relevant work		5	1	4
	PC25. assist in pouring of concrete in forms/moulds as per instruction		2.5	0.5	2
	PC26. carry out proper compaction of concrete using appropriate vibrators		2.5	0.5	2
	PC27. assist in leveling and finishing of concrete as per instruction using appropriate tools		5	1	4
	PC28. carry out curing of finished surface as per instruction		2.5	0.5	2
	PC29. protect the concreted area from damage during and after work		2.5	0.5	2
	PC30. carry out leveling and compaction of back filling as per requirement		2.5	0.5	2
	PC31. carry out soaking of bricks prior to laying		2.5	0.5	2
	PC32. lay bricks course over the compacted fill		2.5	0.5	2
	PC33. fill gap in bricks with sand / suitable filling material		2.5	0.5	2
	PC34. check the level of finished surface		2.5	0.5	2
	PC35. fix baton strips on the floors for making panels as per requirement		2.5	0.5	2
	PC36. carry out the screeding of PCC over the brick soling in specified panels		2.5	0.5	2
	PC37. carry out leveling and finishing of the finished surface		1.25	0.25	1
	PC38. carry out curing of the finished floor		1.25	0.25	1
	Total	100	100	20	80
CON/N0107: Assist in brick/block work including fixing doors and windows and plastering works	PC1. identify the correct type of tools and materials required for relevant task	100	2.5	0.5	2
	PC2. ensure proper transfer, handling and overall storage of correct material as per the requirement of relevant works		2.5	0.5	2
	PC3. ensure proper stacking of bricks / blocks of required numbers as per requirement at the work place		2.5	0.5	2
	PC4. check and ensure the base surface in free of dust, dirt & debris prior to commencement of work		2.5	0.5	2
	PC5. ensure removal all loose concrete laitance and roughening of the surface prior to laying of brick/block		2.5	0.5	2
	PC6. ensure soaking of brick/block and pre wetting of base surface prior to commencement of work		2.5	0.5	2



Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
	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



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