



Model Curriculum

Assistant Shuttering Carpenter

SECTOR: Construction
SUB-SECTOR: Real Estate and Infrastructure Construction
OCCUPATION: Shuttering Carpentry
REF ID: CON/Q0302, Version 2.0
NSQF LEVEL: 3





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Assistant Shuttering Carpenter

CURRICULUM / SYLLABUS

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

Program Name	Assistant Shuttering Carpenter		
Qualification Pack Name & Reference ID	CON/Q0302, Version 2.0		
Version No.	2.0	Version Update Date	04-03-2020
Pre-requisites to Training	NIL		
Training Outcomes	After completing this programme, participants will be able to: <ul style="list-style-type: none">• Operate tools and equipment relevant to shuttering carpentry work• Make wooden shutter boards used in shuttering carpentry works• Provide assistance in assembling and dismantling conventional formwork for R.C.C structures• Provide assistance in assembling and dismantling system formwork for R.C.C structures• Erect and dismantle temporary scaffold up to 3.6 m height• Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams• Follow safety norms as defined by organization, adopt healthy and safe work practices.		



This course encompasses 6 out of 6 National Occupational Standards (NOS) of “Assistant Shuttering Carpenter” Qualification Pack issued by “Construction SSC”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction to shuttering carpentry occupation</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"> Describe the role and responsibilities of the assistant shuttering carpenter Explain the expected personal attributes for the job role Recall the basic terms used in the occupation of shuttering carpentry Discuss the future possible progression and career options for assistant shuttering carpenter 	
2	<p>Operate tools and equipment relevant to shuttering carpentry work</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 24:00</p> <p>Corresponding NOS Code CON/N0312</p>	<ul style="list-style-type: none"> List the different types of hand and power tools used in shuttering works along with their storing and stacking technique Describe the process adopted for care and maintenance of hand and power tools used in shuttering carpentry works Demonstrate operation of hand tools for cutting, planning and drilling of timber/ plywood. Demonstrate operation of power tools for cutting, planning and drilling of timber/ plywood. List the different types of woods used in shuttering carpentry works Explain the common defects in wood Identify common defects in wood visually List the different types of plywood and their thickness Describe the various type of slings, shackles and lifting belts Demonstrate by using slings, shackles and lifting belt for lifting operation of shuttering components. Demonstrate by Explain the standard procedure adopted for shifting and stacking of various shuttering carpentry and scaffolding materials Describe ways to optimize use of consumables Recognize importance of housekeeping and various procedures involved in it 	<ul style="list-style-type: none"> Claw Hammer Ball Pin Hammer Handsaw Tenon saw Wooden Jack Planner Iron Jack Planner Wooden Marking Gauge Wooden Mortise Gauge Auger Farmer Chisel Mortise Chisel Cutting Player Screw Driver Star Screw Driver Marking Knife / Scribe Wooden Mallet Oil Stone (Rough / Smooth) Cutting Chisel Center Punch Bench Vice Hacksaw Frame with blade Triangle file Drill Bit Ring Spanner Double End Spanner

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			<ul style="list-style-type: none"> • Flat File • Half Round File • hand held circular saw • hand held zig saw • hand drill machine • table mounted saw • planing machine • power drilling machine • Masking tape • Nylon line thread • Nails • Spirit Level • Steel Measuring Tape • Plumb Bob • water level tube • Tri-Square
3	<p>Make wooden shutter boards used in shuttering carpentry works</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code CON/N0313</p>	<ul style="list-style-type: none"> • Demonstrate marking and measurement on shutter board, cutting to the specified size, planing and drilling of holes of required diameter. • Operate hand and power tools used for making shutter boards applying safe work practices • Describe the procedure for making shuttering boards • Describe different types of timber joints and their areas of applications • Explain the process and importance of wood seasoning • Demonstrate use of table mounted saw for cutting shutter boards. • Demonstrate the use of planing machine for planing shutter boards. • Demonstrate making of lap joint, mortis and tenon, dovetail and housing joints. 	<ul style="list-style-type: none"> • hand held circular saw • hand held zig saw • hand drill machine • table mounted saw • planing machine • Claw Hammer • Ball Pin Hammer • Handsaw • Tenon saw • Wooden Jack Planner • Iron Jack Planner • Wooden Marking Gauge • Farmer Chisel • Mortise Chisel • Marking Knife / Scribe • Wooden Mallet • Cutting Chisel • Bench Vice • Hacksaw Frame with blade • Flat File

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			<ul style="list-style-type: none"> • Half Round File • Spirit Level • Steel Measuring Tape • Plumb Bob • Tri-Square
4	<p>Assist in assembling and dismantling conventional formwork for RCC structures</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 47:00</p> <p>Corresponding NOS Code CON/N0314</p>	<ul style="list-style-type: none"> • Apply the basic knowledge of units, measurement and arithmetic calculation relevant to shuttering work • Describe standard procedure for assembling and dismantling conventional formwork • Describe the procedure to provide staging support in shuttering works using bamboos, ballis, wooden channels, wedge, base plate etc. • Explain procedure for erection and dismantling of conventional formwork • Explain the checks required for line, level and alignment • Explain the various ties used in conventional shuttering • Demonstrate transfer of level from reference point • Demonstrate erection of staging for conventional shuttering • Demonstrate aligning and supporting of shutter boards as per instruction • Demonstrate erection of aluminium and steel formwork as per instructions. • Demonstrate the various checks conducted in erection and dismantling of conventional formwork • Demonstrate tying of different types of knots • Describe the corrective actions required for maintaining line, level and alignment • Demonstrate shifting of materials and tools required for assembling conventional scaffolding • Demonstrate safe de-shuttering of shuttering boards and other components as per instruction. 	<ul style="list-style-type: none"> • Claw Hammer • Ball Pin Hammer • Handsaw • Tenon saw • Wooden Jack Planner • Iron Jack Planner • Wooden Marking Gauge • Wooden Mortise Gauge • Auger • Farmer Chisel • Mortise Chisel • Cutting Player • Screw Driver • Star Screw Driver • Marking Knife / Scribe • Wooden Mallet • Oil Stone (Rough / Smooth) • Cutting Chisel • Center Punch • Bench Vice • Hacksaw Frame with blade • Triangle file • Drill Bit • Ring Spanner • Double End Spanner • Flat File • Half Round File • Spirit Level • Steel Measuring Tape • Plumb Bob • water level tube • Tri-Square
5	<p>Assist in assembling and dismantling</p>	<ul style="list-style-type: none"> • Describe standard procedure for assembling and dismantling system formwork 	<ul style="list-style-type: none"> • Claw Hammer • Ball Pin Hammer

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>system formwork for RCC structures</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 47:00</p> <p>Corresponding NOS Code CON/N0314</p>	<ul style="list-style-type: none"> Describe the procedure to provide support in shuttering works Explain procedure for erection and dismantling of system formwork Explain the checks required for line, level and alignment. Demonstrate erection of staging/ shuttering for system form works as per instruction. Demonstrate the various checks conducted in erection and dismantling of system formwork Describe the corrective actions required for maintaining line, level and alignment Demonstrate safe de-shuttering of shutter boards and components as per instruction Demonstrate shifting of materials and tools required for assembling system scaffolding 	<ul style="list-style-type: none"> Handsaw Tenon saw Wooden Jack Planner Iron Jack Planner Wooden Marking Gauge Wooden Mortise Gauge Auger Farmer Chisel Mortise Chisel Cutting Player Screw Driver Star Screw Driver Marking Knife / Scribe Wooden Mallet Oil Stone (Rough / Smooth) Cutting Chisel Center Punch Bench Vice Hacksaw Frame with blade Triangle file Drill Bit Ring Spanner Double End Spanner Flat File Half Round File Spirit Level Steel Measuring Tape Plumb Bob water level tube Tri-Square
6	<p>Erect and dismantle temporary scaffold up to 3.6-meter height</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm)</p>	<ul style="list-style-type: none"> Explain scaffolding and its purpose List the common materials and tools used for erection of scaffolding (pipe, cup lock (vertical and ledgers), H-frames, bamboo and balli List the functions of different hand tools like hammer, spanner, pulleys, hooks, ropes, etc., used for erection/ dismantling of scaffolds List the visual checks to be carried out on the scaffolding components to ascertain their usability Identify different components of a temporary scaffolding such as base, toe board, guard rails, platform, walkways, ladder and so on 	<ul style="list-style-type: none"> Hammer Spanner (set) Wrench Pulley Rope Nuts and bolts Measuring tape Spirit level Plumb-bob Mason's line Helmet Safety shoes

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	32:00 Corresponding NOS Code CON/N0101	<ul style="list-style-type: none"> • Explain the functions of materials, components and accessories used in scaffolding • Demonstrate preparation of scaffolding base • Explain the methods adopted for the erection of the scaffold to ensure its safety • Demonstrate erection of a scaffold up to 3.6 m height using pipes and couplers/ cup lock system/ H frame employing appropriate hand tools • Explain various checks to be done on completion of erection of scaffolds, such as verticality check, stability check etc. • Demonstrate the checks required for verticality, rigidity and stability during erection of scaffold. • Explain the sequence and standard procedure of dismantling and stacking of scaffold • Demonstrate the dismantling of the erected scaffold. • Demonstrate the stacking of material, components, tools and accessories during erection and after dismantling. 	<ul style="list-style-type: none"> • Safety belt • Cotton hand gloves • Goggles • Reflective jackets
7	<p>Describe the benefits of working effectively in a team to deliver desired results at the workplace</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code CON/N8001</p>	<ul style="list-style-type: none"> • Demonstrate effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Interpret work sketches, formats, permits, protocols, checklists and other work-related requirements which are to be conveyed to other team members • Demonstrate effective reporting to seniors as per applicable organisational norms. • Explain effects and benefits of timely actions relevant to bar bending works with examples • Explain importance of team work and its effects relevant to bar bending works with examples • Demonstrate team work skills during assigned task. 	
8	<p>Work according to personal health, safety and environment protocol at construction site</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code CON/N9001</p>	<ul style="list-style-type: none"> • Explain the types of hazards at the construction sites • Identify the hazards specific to the shuttering work • Recall the safety control measures and actions to be taken under emergency situation • Explain the classes of fire and types of fire extinguishers • Demonstrate the operation of fire extinguisher. • Demonstrate different methods involved in providing first aid to the affected person. • Explain the importance of worker participation in safety/mock drills • Demonstrate the use of all Personal Protective Equipment (PPE) like helmet, safety shoe, safety belt, safe jackets and other safety equipment relevant to shuttering work. 	<ul style="list-style-type: none"> • Safety PPE • Safety shoes • Safety Goggles • Safety Helmet • Cotton Hand - Gloves • Tools Bag • Safety Belt • Face Mask • Operator – Leather Apron • Safety Shoes (Assorted Size) • Ear Muff • Reflective jackets • Safety message boards

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • Explain the reporting procedure adopted in case of emergency situations • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories • Explain different types of wastes produced at a construction site including their disposal method • Explain the purpose and importance of vertigo test at construction site • Demonstrate vertigo test • List out basic medical tests required for working at construction Site • Explain the types of ergonomic principles adopted while carrying out specific task at the construction • Explain the benefits of basic ergonomic principles used at construction sites. • Explain the importance of housekeeping • Demonstrate housekeeping practice followed after shuttering works. 	<ul style="list-style-type: none"> • Fire extinguishers • Sand buckets
	<p>Total Duration</p> <p>Theory Duration 104:00 hours</p> <p>Practical Duration 246:00 hours</p>	<p>Unique Equipment Required:</p> <p>Hand Tools Claw Hammer, Ball Pin Hammer, Handsaw, Tenon saw, Wooden Jack Planner, Iron Jack Planner, Wooden Marking Gauge, Wooden Mortise Gauge, Auger, Farmer Chisel, Mortise Chisel, Cutting Player, Screw Driver, Star Screw Driver, Marking Knife / Scribe, Wooden Mallet, Oil Stone (Rough / Smooth), Cutting Chisel, Centre Punch, Bench Vice, Hacksaw Frame with blade, Triangle file, Drill Bit, Ring Spanner, Double End Spanner, Flat File, Half Round File</p> <p>Power Tool hand held circular saw, hand held zig saw, hand drill machine, table mounted saw, planing machine, power drilling machine</p> <p>Consumables Masking tape, Nylon line thread, Nails,</p> <p>Levelling and measuring Tools Spirit Level, Steel Measuring Tape, Plumb Bob, water level tube Tri-Square</p> <p>Personal Protective equipment Safety PPE, Safety shoes, Safety Goggles, Safety Helmet, Cotton, Hand – Gloves, Tools Bag, Safety Belt, Face Mask, Operator – Leather Apron, Safety Shoes (Assorted Size), Ear Muff, Reflective jackets, Safety message boards, Fire extinguishers, Sand buckets</p> <p>Classroom Aid for 30 students Black/White board, Projector/LED Monitor, Chalk, Computer Trade specific charts and other teaching aids</p>	

Grand Total Course Duration: 350 Hours, 0 Minutes

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



Trainer Prerequisites for Job role: “Assistant Shuttering Carpenter” mapped to Qualification Pack: “CON/Q0302, Version 2.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “CON/Q0302 Version 2.0”.
2	Personal Attributes	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	Minimum Educational Qualifications	ITI/12th
4a	Domain Certification	Certified for the job role “Assistant Shuttering Carpenter” mapped to QP:“CON/Q0302 Version 2.0” Minimum accepted score is 80%
4b	Platform Certification	Certified for the job role “Trainer” mapped to QP:“MEP/Q2601” Minimum accepted score is 80%
5	Experience	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 th pass minimum eight years of field experience and preferably two years of teaching Experience.

Note: For the Assessment Criteria please refer to the QP PDF