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RECOGNITION OF PRIOR LEARNING

indiaⁱⁿvision

TRAINING PARTNER

INDIAVISION REALTY AND INFRASTRUCTURE PVT LTD

In Consortium with

PK ENTERPRISES

Approved Curriculum 120 Hours

**Assistant Shuttering Carpenter
(NSQF Level – 3)**

SECTOR: CONSTRUCTION

**SUB-SECTOR: REAL ESTATE AND INFRASTRUCTURE
CONSTRUCTION**

OCCUPATION: SHUTTERING CARPENTER

REF. ID: CON/Q0302, VERSION 1.1

NSQF LEVEL: 3

**Arunachal Pradesh Building & Other's Construction workers welfare board
(APB&OCWWB)**

ESS Sector, Itanagar-791110



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Assistant Shuttering Carpenter

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of an “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.	Assistant Shuttering Carpenter CON/Q0302		
Version No.	1.0	Version Update Date	01-08-2022
Pre-requisites to Training	Preferably 5th standard		
Training Outcomes	<p>After completing this program, participants will be able to:</p> <ul style="list-style-type: none"> • Use and maintain tools and equipments relevant to shuttering carpentry: <ul style="list-style-type: none"> - Recognising, differentiating and using electrical tools and devices appropriately in basic electrical operations • Assist in making wooden shutter used in shuttering carpentry: - Selection and use of hand and power tools for cutting, planing and drilling of timber/plywood and making of wooden shutter • Assist in Assembling & dismantling conventional & system formwork for R.C.C structures: -Methods and standard procedures of assembling and dismantling of conventional and system formwork for R.C.C structures • Erect and dismantle temporary scaffold of 3.6 m height:-Standard procedure for erection and dismantling of temporary scaffold of 3.6m height. • Work effectively in a team to deliver desired results at the workplace :- Organised working procedure within a team at site • Work according to personal health, safety and environment protocol at construction site: - Importance of Health & Safety aspects & measures to be followed while working. 		



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

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction to Job role</p> <p>Theory Duration (hh:mm) 01:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code</p>	<ul style="list-style-type: none"> • Role description/ functions of the job role • Expected personal attributes from the job role • Brief description about course content, mode of learning and duration of course • Future possible progression and career development provisions on completion of the course 	<ol style="list-style-type: none"> 1. Classroom of 30 students capacity 2. Black/White board 3. Projector/LED Monitor 4. Computer 5. Trade specific charts and other teaching aids
2	<p>Use and maintain tools and equipments relevant to shuttering carpentry</p> <p>Theory Duration (hh:mm) 02:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code CON/N0312</p>	<p>Theory: -</p> <ul style="list-style-type: none"> • Different types of hand and power tools used in shuttering works • Different types of woods, there common defects and how to identify defects visually • types and thickness of plywood • types and use of slings, shackles and lifting belts • shifting and stacking of various shuttering carpentry and scaffolding materials as per standard practices • upkeep repair and maintenance of tools • storing and stacking of hand and power tools • how to optimize use of consumables • importance of housekeeping, various procedures involved in housekeeping • safety: introduction to safety, working at heights, fall protection, fire safety, electrical safety, barrication etc. <p>Demonstration/ Practical (D/P) :-</p> <ul style="list-style-type: none"> • Demonstrate the use of hand and power tools required for shuttering carpentry works • Demonstrate the use of slings, shackles and lifting belts for material shifting • Demonstrate the use of PPE • Describe the importance of housekeeping 	<p>Hand Tools</p> <ol style="list-style-type: none"> 1. Claw Hammer 2. Ball Pin Hammer 3. Handsaw 4. Tenon saw 5. Jack Planner 6. Marking Gauge 7. Auger 8. Farmer Chisel 9. Mortise Chisel 10. Cutting Player 11. Screw Driver set 12. Stone (Rough / Smooth) 13. Cutting Chisel 14. Center Punch 15. Hacksaw Frame with blade 16. Triangle file 17. Drill Bit 18. Ring Spanner 19. Flat File <p>Power Tool</p> <ol style="list-style-type: none"> 1. hand held zig saw 2. hand drill machine 3. table mounted saw 4. planing machine 5. power drilling machine 6. Hand held circular saw <p>Consumables</p> <ol style="list-style-type: none"> 1. Masking tape 2. Nails



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Sr. No.	Module	Key Learning Outcomes	Equipment Required
			<p>Levelling and measuring</p> <p>Tools</p> <ol style="list-style-type: none"> 1. Spirit Level 2. Steel Measuring Tape 3. Plumb Bob 4. water level tube 5. Tri-Square <p>Personal Protective equipment</p> <ol style="list-style-type: none"> 1. Safety PPE 2. Safety shoes 3. Safety Goggles 4. Safety Helmet 5. Cotton Hand - Gloves 6. Tools Bag 7. Safety Belt 8. Face Mask 9. Operator – Leather Apron 10. Safety Shoes (Assorted Size) 11. Ear Muff
3	<p>Assist in making wooden shutter board used in shuttering carpentry</p> <p>Theory Duration (hh:mm) 04:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code CON/N0313</p>	<p>Theory:-</p> <ul style="list-style-type: none"> • Different types of hand and power tools used for making shutter boards • Safety precautions to be taken while using power tools • Different types of measuring and marking tools and their use in making the shuttering boards • Different types of timber joints, their areas of application • What is seasoning, why is it important and how it is done • Different attachments of various power tools and their applications <p>Demonstration/ Practical (D/P) :-</p> <ul style="list-style-type: none"> • identify different types of power tools based upon the work requirement 	<p>Power Tool</p> <ol style="list-style-type: none"> 1. hand held circular saw 2. hand held zig saw 3. hand drill machine 4. table mounted saw 5. planing machine <p>Hand Tools</p> <ol style="list-style-type: none"> 1. Claw Hammer 2. Ball Pin Hammer 3. Handsaw 4. Tenon saw 5. Jack Planner 6. Marking Gauge 7. Auger 8. Farmer Chisel 9. Mortise Chisel 10. Cutting Player



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Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • demonstrate the use of measuring and marking tools for correct sizing of timber/plywood • demonstrate use of tale mounted saw • demonstrate the use of planing machine • identify the required hand tools and make the following joints <ul style="list-style-type: none"> ○ lap joint, ○ mortis and tenon joints ○ dovetail joints ○ housing joints • describe the procedure for making shuttering boards 	<ol style="list-style-type: none"> 11. Screw Driver set 12. Stone (Rough / Smooth) 13. Cutting Chisel 14. Center Punch 15. Hacksaw Frame with blade 16. Triangle file 17. Drill Bit 18. Ring Spanner 19.Flat File <p><u>Personal</u></p> <p><u>Protective equipment</u></p> <ol style="list-style-type: none"> 1. Safety PPE 2. Safety shoes 3. Safety Goggles 4. Safety Helmet 5. Cotton Hand - Gloves 6. Tools Bag 7. Safety Belt 8. Face Mask 9. Safety Shoes (Assorted Size) 10. Ear Muff <p><u>Levelling and measuring Tools</u></p> <ol style="list-style-type: none"> 1. Spirit Level 2. Steel Measuring Tape 3. Plumb Bob 4. Tri-Square
4	<p>Assist in assembling and dismantling conventional and system formwork for R.C.C structures</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code CON/N0314</p>	<p><u>Theory:-</u></p> <ul style="list-style-type: none"> • introduction to units of measurements • standard specification and sizes for hand tools used in shuttering carpentry • different types of knots and there use • standard procedure for assembling and dismantling conventional and system formwork • importance of safety and housekeeping • how to provide support in shuttering works • what is level, its requirement, how is it transferred • procedure for erection and dismantling of conventional and system formwork • what is line, level and alignment. How are the checked, what are the corrective actions for maintain line, level and alignment 	<p><u>Hand Tools</u></p> <ol style="list-style-type: none"> 1. Claw Hammer 2. Ball Pin Hammer 3. Handsaw 4. Tenon saw 5. Jack Planner 6. Marking Gauge 7. Auger 8. Farmer Chisel 9. Mortise Chisel 10. Cutting Player 11. Screw Driver set 12. Stone (Rough / Smooth) 13. Cutting Chisel 14. Center Punch 15. Hacksaw Frame with blade 16. Triangle file 17. Ring Spanner 18. Flat File



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Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>Demonstration/ Practical (D/P) :-</p> <ul style="list-style-type: none"> • Demonstrate shifting of materials and tools required for assembling system and conventional scaffolding • Demonstrate transfer of level using various leveling tools • Demonstrate making of shuttering boards • Demonstrate erection and dismantling of system and conventional formwork • Demonstrate checking procedure for line, level and alignment 	<p>Levelling and measuring Tools</p> <ol style="list-style-type: none"> 1. Spirit Level 2. Steel Measuring Tape 3. Plumb Bob 4. water level tube 5. Tri-Square <p>Personal Protective equipment</p> <ol style="list-style-type: none"> 1. Safety PPE 2. Safety shoes 3. Safety Goggles 4. Safety Helmet 5. Cotton Hand - Gloves 6. Tools Bag 7. Safety Belt 8. Face Mask 9. Safety Shoes (Assorted Size) 10. Ear Muff
5	<p>Erect and dismantle temporary scaffold of 3.6 meter height</p> <p>Theory Duration (hh:mm) 02:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code</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 scaffolds (Pipe & coupler, Frame scaffold/Bamboo and ballies) • 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 	<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"> 1. Measuring tape 2. Spirit level 3. Plumb-bob 4. Mason's line



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	CON/N0101	<p>rails, platform, walkways, ladder etc., their function and placing</p> <ul style="list-style-type: none"> • Spacing/ height to be provided among different components of a temporary scaffold • 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 process <p>Checks to be done on completion of erection of scaffolds, such as verticality check, stability check</p> <p><u>Demonstration/ practical:</u></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 • Use PPEs as per necessity of the task • Dismantle the whole scaffold and stack their components as per standard practice 	<p><u>Materials</u></p> <ol style="list-style-type: none"> 1. Cup-lock scaffolding components (set) 2. 40 NB pipes 3. Swivel coupler 4. Fixed clamp 5. Steel walers 6. Steel walkways 7. Aluminium/ GI ladder 8. Safety net <p><u>PPEs & safety equipment's</u></p> <ol style="list-style-type: none"> 1. Helmet 2. Safety shoes 3. Safety belt 4. Cotton hand gloves 5. Goggles 6. Reflective jackets 7. Safety message boards
6	<p>Work effectively in a team to deliver desired results at the workplace</p> <p>Theory Duration (hh:mm) 01:00</p>	<p><u>Theory:-</u></p> <ul style="list-style-type: none"> • Understanding of oral and written communication skills with co-workers, trade seniors while handling and carrying out visual checks on materials, tools and equipments • Reading and interpretation of work sketches 	



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Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code CON/N8001</p>	<ul style="list-style-type: none"> How to interpret scope of carpentry 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 :- The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition</p> <ol style="list-style-type: none"> Selection of materials, tools or devices for defined purpose under Handling formwork material, tools and equipments preparation of shuttering boards assembling and dismantling conventional formwork assembling and dismantling system formwork 	
7	<p>Work according to personal health, safety and environment protocol at construction site</p> <p>Theory Duration (hh:mm) 02:00</p> <p>Practical Duration (hh:mm) 10:00</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 shuttering 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 What is safe disposal of waste, type of waste and their disposal <p>Demonstration/ Practical :- The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition.</p>	<p>PPE and Safety equipment</p> <ol style="list-style-type: none"> Safety PPE Safety shoes Safety Goggles Safety Helmet Cotton Hand - Gloves Tools Bag Safety Belt Face Mask Safety <p>Shoes</p> <ol style="list-style-type: none"> Ear Muff Reflective jackets Safety message boards Fire extinguishers Sand buckets

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		<ol style="list-style-type: none"> 1. Selection of PPEs and use them appropriately as per working need of shuttering carpentry, handling, storing, stacking and shifting of different materials, tools and equipments 2. Selection of PPEs and use them appropriately as per working need of handling formwork material, tools and equipments 3. Identification of locations, situations/circumstances, malpractices which can be hazardous for general works 4. Selection of fire extinguisher based on classification of fire, standard practice of storing & stacking fire fighting equipments/ materials at work locations 5. Disposal of waste materials as per their nature and effects on weather 	
	<p>Total Duration: 120:00</p> <p>Theory Duration 20:00</p> <p>Practical Duration 100:00</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, Center 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, Cotton waste</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>	

Grand Total Course Duration: 120 Hours 00 minutes
(This syllabus/ curriculum has been approved by Construction skill development council of India.)

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(APB&OCWWB)
ESS Sector, Itanagar-791110