



# Model Curriculum

## Assistant Bar Bender & Steel Fixer (NSQF Level – 2)

**SECTOR: CONSTRUCTION**  
**SUB-SECTOR: REAL ESTATE AND INFRASTRUCTURE**  
**CONSTRUCTION**  
**OCCUPATION: BAR BENDING & FIXING**  
**REF. ID: CON/Q0202, VERSION 1.0**  
**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 Bar Bender & Steel Fixer'** OP No. **'CON/Q 0202 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 Bar Bender & Steel Fixer

## CURRICULUM / SYLLABUS

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

<b>Program Name</b>	<b>Assistant Bar Bender &amp; Steel Fixer</b>		
<b>Qualification Pack Name &amp; Reference ID.</b>	Assistant Bar Bender & Steel Fixer CON/Q0202		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	30-12-2015
<b>Pre-requisites to Training</b>	Preferably 5 <sup>th</sup> Standards		
<b>Training Outcomes</b>	<b>After completing this programme, participants will be able to:</b> <ul style="list-style-type: none"><li>• <b>Read and understand reinforcement bar detail from hand sketches:-</b> Basic concepts of drawings/sketches used in reinforcement steel works</li><li>• <b>Use and maintain materials, tools, and equipment relevant to reinforcement works :</b> Introduction to tools, their selection and uses use of hand tools for reinforcement steel works</li><li>• <b>Perform cutting and manual bending of rebar for simple shapes:-</b> Basic concepts of drawings/sketches and Bar Bending Schedule used in routine works</li><li>• <b>Assist in fabrication, placing and fixing of rebar for pre- fabricated and in-situ RCC Structures :-</b> Introduction to structural components , Insertion, placing and fixing of rebar for footing, column, beam and slab</li><li>• <b>Erect and dismantle temporary scaffold of 3.6 m height:-</b> Standard procedure for erection and dismantling of temporary scaffold of 3.6m height.</li><li>• <b>Work effectively in a team to deliver desired results at the workplace :</b> Organised working procedure within a team at site</li><li>• <b>Work according to personal health, safety and environment protocol at construction site:-</b> Importance of Health &amp; Safety aspects &amp; measures to be followed while working.</li></ul>		

This course encompasses 7 out of 7 National Occupational Standards (NOS) of “Assistant Bar Bender & Steel Fixer” Qualification Pack issued by “Construction Skill Development Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Introduction to the job role - (Lecture/ description by concerned trainer)</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p> <p><b>Corresponding NOS Code</b> Bridge Module</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>• Role description/ functions of the job role</li> <li>• Expected personal attributes from the job role</li> <li>• Brief description about course content, mode of learning and duration of course</li> <li>• Future possible progression and career development provisions on completion of the course</li> </ul>	<p><b>Classroom Requirement</b></p> <ol style="list-style-type: none"> <li>1. Classroom of 30 students capacity</li> <li>2. Black/White board</li> <li>3. Projector/LED Monitor</li> <li>4. Computer</li> <li>5. Trade specific charts and other teaching aids</li> </ol>
2	<p><b>Read and understand reinforcement bar detail from hand sketches</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 24:00</p> <p><b>Corresponding NOS Code</b> CON/N0214</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>• Unit of linear measurement and their conversion</li> <li>• Types of drawings (Numeration/General arrangement, R.C.C detail drawing)</li> <li>• Importance of drawings</li> <li>• Different components of structures</li> <li>• Unit weight of steel</li> <li>• Calculation of cutting length for stirrups, hanger bars, chairs and for simpler shapes</li> </ul> <p><b>Demonstration/Practical:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate to detail out information about bar diameter, shape, spacing</li> <li>• Demonstrate measurement conversion</li> <li>• Demonstrate calculation for stirrups, hanger bars, chairs and simpler shapes</li> </ul>	<p><b>Drawings/Sketches</b></p> <ol style="list-style-type: none"> <li>1. Drawings of various types of structures and structural elements</li> <li>2. Bar bending schedule sample</li> <li>3. Model room</li> </ol>
3	<p><b>Use and maintain materials, tools, and equipment relevant to reinforcement works</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>• Different hand tools for reinforcement steel works</li> <li>• Different types of rebar, their grade and size</li> <li>• Types and thickness of binding wire</li> <li>• Different power tools for reinforcement steel works</li> <li>• Lifting gears and equipments</li> </ul>	<p><b>Hand Tools</b></p> <ol style="list-style-type: none"> <li>1. Chisel</li> <li>2. Hammer</li> <li>3. Bar tying hook</li> <li>4. Bending lever</li> <li>5. Guage measure</li> <li>6. Podger Spanner</li> <li>7. Hack saw blade and frame</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Practical Duration</b> (hh:mm) 36:00</p> <p><b>Corresponding NOS Code</b> CON/N0215</p>	<ul style="list-style-type: none"> <li>Personal protective equipments</li> <li>Basic maintenance of hand and power tools</li> <li>Visual checks to identify working condition of hand tools</li> <li>Importance of body postures while using hand and power tools</li> </ul> <p><b>Demonstration/Practical:</b></p> <ul style="list-style-type: none"> <li>Demonstrate application of hand tools</li> <li>Demonstrate selection of hand tools and PPE based on work requirement</li> <li>Identify rebar's based on their type, grade</li> <li>Demonstrate how to check thickness of binding wire using wire gauge</li> <li>Demonstrate fixing of cutting blade to cutting machine</li> </ul>	<p><b>Measuring Instruments</b></p> <ol style="list-style-type: none"> <li>Steel scale</li> <li>Try Scale</li> <li>Spirit level</li> <li>Plumb bob</li> <li>Measurement tape</li> </ol> <p><b>Power Tools</b></p> <ol style="list-style-type: none"> <li>Cutting machine</li> <li>Bending machine</li> </ol> <p><b>General requirement</b></p> <ol style="list-style-type: none"> <li>Reinforcement steel bar</li> <li>Binding wires</li> <li>Cover blocks</li> <li>Wooden planks</li> <li>Rebar tying machine</li> <li>Lifting appliance (Sling, Shackle, Belts)</li> </ol> <p><b>PPEs</b></p> <ol style="list-style-type: none"> <li>Safety Helmet</li> <li>Safety goggles</li> <li>Safety shoes</li> <li>Safety belt</li> <li>Cotton gloves</li> <li>Ear plugs</li> <li>Reflective jackets</li> <li>Dust mask</li> <li>Fire Prevention kit</li> </ol>
4	<p><b>Perform cutting and manual bending of rebar for simple shapes</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 48:00</p> <p><b>Corresponding NOS Code</b> CON/N0216</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>Measurement and marking method for cutting and bending</li> <li>Types of stirrups</li> <li>Hand tools for cutting and bending rebar manually</li> <li>Power tools for cutting rebar</li> <li>Tolerance for cutting and bending of rebar</li> <li>Body postures for cutting and bending of rebar</li> </ul> <p><b>Demonstration/Practical:</b></p> <ul style="list-style-type: none"> <li>Demonstrate cutting of rebar for a smaller diameter rebar using hand tool</li> <li>Demonstrate cutting of rebar using power tools</li> <li>Demonstrate making of stirrups, chairs and hanger bar</li> </ul>	<p><b>Hand Tools</b></p> <ol style="list-style-type: none"> <li>Hack saw</li> <li>Rail piece</li> <li>Pointed chisel</li> <li>Sledge hammer</li> <li>Bending lever</li> <li>Pin plate</li> <li>Working bench</li> </ol> <p><b>Measuring Instruments</b></p> <ol style="list-style-type: none"> <li>Measurement tape</li> </ol> <p><b>Power Tools</b></p> <ol style="list-style-type: none"> <li>Cutting machine</li> <li>Bending machine</li> </ol> <p><b>General requirement</b></p> <ol style="list-style-type: none"> <li>M.S, TOR steel, TMT steel</li> <li>Binding wires</li> <li>Steel cutting blade</li> <li>Cover blocks</li> <li>Wooden planks</li> <li>Rebar tying machine</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Demonstrate bending of rebar for simpler shape such as L, U shape</li> </ul>	16. Lifting appliance (Sling, Shackle, Belts) <u>PPEs</u> 17. Safety Helmet 18. Safety goggles 19. Safety shoes 20. Safety belt 21. Cotton gloves 22. Ear plugs 23. Reflective jackets 24. Dust mask 25. Fire Prevention kit
5	<p><b>Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC Structures</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 66:00</p> <p><b>Corresponding NOS Code</b> CON/N0217</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>Different types of ties (Slash tie, ring slash tie, hair-pin tie, ring hair-pin tie, crown tie, lap tie)</li> <li>Sequence for tying of rebar for in-situ and pre-fabricated cages for footing, column, wall, beam and slab</li> <li>Lapping of rebar and staggering</li> <li>Use of chairs, hanger bar, spacer bar</li> </ul> <p><b>Demonstration/Practical:</b></p> <ul style="list-style-type: none"> <li>Describe insertion and fixing sequence for footing, column, wall, beam and slab</li> <li>Demonstrate tying of rebar using different ties</li> <li>Demonstrate marking, placing, fixing and tying of stirrups for column, beam as per specified spacing</li> <li>Demonstrate marking, placing, fixing and tying of rebar for wall and slab as per specified spacing</li> </ul>	<p><u>Hand Tools</u></p> <ol style="list-style-type: none"> <li>Hack saw</li> <li>Rail piece</li> <li>Pointed chisel</li> <li>Sledge hammer</li> <li>Bending lever</li> <li>Pin plate</li> <li>Working bench</li> <li>Binding hook</li> <li>Hammer</li> </ol> <p><u>Measuring Instruments</u></p> <ol style="list-style-type: none"> <li>Measurement tape</li> <li>Chalk piece</li> </ol> <p><u>Power Tools</u></p> <ol style="list-style-type: none"> <li>Cutting machine</li> <li>Bending machine</li> </ol> <p><u>General requirement</u></p> <ol style="list-style-type: none"> <li>M.S, TOR steel, TMT steel</li> <li>Binding wires</li> <li>Steel cutting blade</li> <li>Mechanical coupler</li> <li>Cover blocks</li> <li>Wooden planks</li> <li>Rebar tying machine</li> <li>Lifting appliance (Sling, Shackle, Belts)</li> </ol> <p><u>PPEs</u></p> <ol style="list-style-type: none"> <li>Safety Helmet</li> <li>Safety goggles</li> <li>Safety shoes</li> <li>Safety belt</li> <li>Cotton gloves</li> <li>Ear plugs</li> <li>Reflective jackets</li> <li>Dust mask</li> <li>Fire Prevention kit</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
5	<p><b>Erect and dismantle temporary scaffold of 3.6 m height</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 40:00</p> <p><b>Corresponding NOS Code</b> CON/N0101</p>	<p><b>Theory:</b></p> <ul style="list-style-type: none"> <li>• What is scaffolding and its purpose of its erection</li> <li>• Common materials and tools used for erection of scaffolds (Pipe &amp; coupler, Frame scaffold/Bamboo and ballies)</li> <li>• Characteristics of ideal base of scaffolding and its preparation</li> <li>• Visual checks to be carried out on the scaffolding components to ascertain their usability</li> <li>• Different components of a temporary scaffolding such as base, toe board, guard rails, platform, walkways, ladder etc., their function and placing</li> <li>• Spacing/ height to be provided among different components of a temporary scaffold</li> <li>• Safety measures to be followed while tightening, fixing/ assembling different part of scaffold together</li> <li>• Function of different hand tools like hammer, spanner, pulleys, hooks, ropes etc. used for erection/ dismantling of scaffolds.</li> <li>• Use of different scaffolding accessories like different kind of clamps, washers, props, bracings and other supporting members</li> <li>• Standard method of erecting &amp; dismantling 3.6 m temporary scaffold.</li> <li>• Material handling and shifting methods while scaffolding erection/ dismantling is under process</li> <li>• Standard safety procedure while working at height.</li> <li>• Checks to be done on completion of erection of scaffolds, such as verticality check, stability check</li> </ul> <p><b>Demonstration/ practical:</b></p> <ul style="list-style-type: none"> <li>• Sort and shift scaffolding material from stock yard to space of erection</li> <li>• Clean the area of the scaffolding and prepare the base</li> </ul>	<p><b>Hand tools</b></p> <ol style="list-style-type: none"> <li>1. Hammer</li> <li>2. Spanner (set)</li> <li>3. Wrench</li> <li>4. Pulley</li> <li>5. Rope</li> <li>6. Nuts and bolts</li> </ol> <p><b>Measuring Instruments</b></p> <ol style="list-style-type: none"> <li>7. Measuring tape</li> <li>8. Spirit level</li> <li>9. Plumb-bob</li> <li>10. Mason's line</li> </ol> <p><b>Materials</b></p> <ol style="list-style-type: none"> <li>11. Cup-lock scaffolding components (set)</li> <li>12. 40 NB pipes</li> <li>13. Swivel coupler</li> <li>14. Fixed clamp</li> <li>15. Steel walers</li> <li>16. Steel walkways</li> <li>17. Aluminium/ GI ladder</li> <li>18. Safety net</li> </ol> <p><b>PPEs &amp; safety equipment's</b></p> <ol style="list-style-type: none"> <li>19. Helmet</li> <li>20. Safety shoes</li> <li>21. Safety belt</li> <li>22. Cotton hand gloves</li> <li>23. Goggles</li> <li>24. Reflective jackets</li> <li>25. Safety message boards</li> </ol>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Erect scaffolds of 3.6 Mtr. height using pipes and cup locks using appropriate hand tools</li> <li>Use clamp and other supporting members to ensure stability and verticality of the scaffolds</li> <li>Place different components of scaffolds such as base plate, vertical/ horizontal members, toe boards, guard rails, platforms/ walkways, ladder etc. as per standard practice</li> <li>Use PPEs as per necessity of the task</li> <li>Dismantle the whole scaffold and stack their components as per standard practice</li> </ul>	
6	<p><b>Work effectively in a team to deliver desired results at the workplace</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> CON/N8001</p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>Method of oral and written communication skills with co-workers related to cutting, bending and tying works</li> <li>Method of oral and written communication skills for informing trade senior about any lack of information in the drawing/sketches or deviation from the work</li> <li>Reading and interpretation of sketches</li> <li>How to understand and follow work methods, by adhering to instructions or consulting with seniors</li> <li>Method of providing instruction to subordinates or reporting to seniors clearly and promptly</li> <li>Seek necessary support and complete assigned tasks within stipulated time duration</li> <li>Keep good relation and maintain well behavior with co-workers</li> </ul> <p><b>Demonstration/ Practical :-</b> The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition</p> <p>1. Selection of materials, tools or devices for defined purpose</p>	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		2. Handling material, tools and equipments relevant to reinforcement works 3. Carrying out cutting and bending of rebar 4. Carrying out fabrication, placing and fixing of reinforcement for R.C.C structures 5. Selection and handing over of desired/ appropriate tools/ materials while assisting trade senior	
7	<p><b>Work according to personal health, safety and environment protocol at construction site</b></p> <p><b>Theory Duration</b> (hh:mm) 08:00</p> <p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> CON/N9001</p>	<p><b>Theory:-</b></p> <ul style="list-style-type: none"> <li>Types of hazards involved in construction sites</li> <li>Types of hazards involved in reinforcement works</li> <li>Emergency safety control measures and actions to be taken under emergency situation</li> <li>Identification of unsafe act and unsafe condition</li> <li>Concept of :- First Aid process Use of fire extinguisher Classification of fires and fire extinguisher Safety drills</li> <li>Types and use of PPEs required for reinforcement works</li> <li>Reporting procedure to the concerned authority in emergency situations</li> <li>Standard procedure of handling, storing and stacking material</li> <li>What is safe disposal of waste, type of waste and their disposal</li> <li>Basic ergonomic principles as per applicability</li> </ul> <p><b>Demonstration/ Practical :-</b> The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition.</p>	<p><b>PPEs</b></p> <ol style="list-style-type: none"> <li>Safety Helmet</li> <li>Safety goggles</li> <li>Safety shoes</li> <li>Safety belt</li> <li>Cotton gloves</li> <li>Ear plugs</li> <li>Reflective jackets</li> <li>Dust mask</li> <li>Fire Prevention kit</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ol style="list-style-type: none"> <li>1. Selection of PPEs and use them appropriately as per working need of reinforcement works, handling, storing, stacking and shifting of reinforcement material, tools and equipments</li> <li>2. Selection of PPEs and use them appropriately as per working need of cutting, bending , placing and fixing of rebar</li> <li>3. Identification of locations, situations/ circumstances, malpractices which can be hazardous for general or reinforcement works</li> <li>4. Selection of fire extinguisher based on classification of fire, standard practice of storing &amp; stacking fire-fighting equipments/ materials at work locations</li> <li>5. Disposal of waste materials as per their nature and effects on weather</li> </ol>	
	<p><b>Total Duration</b></p> <p><b>Theory Duration</b> <b>72:00</b></p> <p><b>Practical Duration</b> <b>278:00</b></p>	<p><b>Unique Equipment Required:</b> <u>Classroom Requirement</u> Classroom of 30 students capacity, Black/White board, Projector/LED Monitor, Computer, Trade specific charts and other teaching aids</p> <p><u>Hand Tools</u> Chisel, Hammer, Bar tying hook, Bending lever, Gauge measure, Podger Spanner, Hack saw blade and frame, Hack saw, Rail piece, Pointed chisel, Sledge hammer, Pin plate, Working bench</p> <p><u>Measuring Instruments</u> Measuring tape, Spirit level, Plumb-bob, Mason’s line</p> <p><u>Power Tools</u> Bar cutting machine, Bar bending machine</p> <p><u>General requirement</u> M.S, TOR steel, TMT steel Binding wires, Steel cutting blade, Cover blocks, Wooden planks, Rebar tying machine, Lifting appliance (Sling, Shackle, Belts)</p> <p><u>Materials</u> Cup-lock scaffolding components (set), 40 NB pipes, Swivel coupler, Fixed clamp, Steel walers, Steel walkways, Aluminium/ GI ladder, Safety net</p> <p><u>PPEs</u> Safety Helmet, Safety goggles, Safety shoes, Safety belt, Cotton gloves, Ear plugs , Reflective jackets, Dust mask, Fire Prevention kit</p>	

**Grand Total Course Duration: 350 Hours 00 Minutes**

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

## Trainer Prerequisites for Job role: “Assistant Bar Bender & Steel Fixer” mapped to Qualification Pack: “CON/Q0202”

Sr. No.	Area	Details
1	<b>Job Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “CON/Q0202”.
2	<b>Personal Attributes</b>	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field
3	<b>Minimum Educational Qualifications</b>	10 <sup>th</sup> standard or equivalent standard in literacy and numeracy
4a	<b>Domain Certification</b>	Certified for Job Role: “Reinforcement Fitter” mapped to QP: “CON/N0204”. Minimum accepted % as per respective SSC guidelines is 70%.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “SSC/Q1402”. Minimum accepted % as per respective SSC guidelines is 70%.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>i. Technical Degree holder with minimum Five years of Field &amp; Two years of teaching experience (At least one year each at workers and Engineers level) or,</li> <li>ii. In case of a Diploma Holder Ten years of field &amp; five years of teaching experience (Three years at workers level and two years at Engineers level) having Total experience to 15 yrs. or,</li> <li>iii. In case of specific to trades than should have qualified the Minimum Level- 4 and have Fifteen year of field experience and Three years of Teaching experience or,</li> <li>iv. Graduate or Intermediate should possess at least Level – 4 Certificate and have 12 years of field experience and two years of trade teaching experience or</li> </ul>



## Annexure: Assessment Criteria

<b>Assessment Criteria for Assistant Bar Bending &amp; Steel Fixer</b>	
<b>Job Role</b>	<b>Assistant Bar Bender &amp; Steel Fixer</b>
<b>Qualification Pack</b>	<b>CON/Q0202, version 1.0</b>
<b>Sector Skill Council</b>	<b>Construction</b>

<b>Sr. No.</b>	<b>Guidelines for Assessment</b>
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3	Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5	The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% individually in each NOS.
6	The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7	The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8	After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.
10	Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Marks Allocation		
			Out Of	Theory	Skills Practical
<b>CON/N0214: Read and understand reinforcement bar details from hand sketches</b>	PC1. read and understand rebar details from hand sketches	<b>100</b>	20	4	16
	PC2. identify diameter, cutting length, number and shape of rebar from hand sketch		10	2	8
	PC3. identify cover for rebar from hand sketch		15	3	12
	PC4. read spacing detail for stirrups, main and secondary rebar, bar chairs, spacer bar from hand sketch		15	3	12
	PC5. calculate cutting length of rebar for stirrups, hanger bar and chairs		20	4	16
	PC6. calculate cutting length of rebar for simple shapes		20	4	16
	<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>	
<b>CON/N0215: Use and maintain materials, tools and equipment relevant to reinforcement works</b>	PC1. use materials such as binding wire, bar connecting coupler, thread protection cap	<b>100</b>	10	2	8
	PC2. use different types of rebar as per instructions		5	1	4
	PC3. use hand tools such as lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate and other relevant tools used in reinforcement works		10	2	8
	PC4. use power tools such as hand held rebar cutting machine, circular rebar cutting machine and shearing machine for cutting of rebar		10	2	8
	PC5. use threading machine for making threads on rebar as per instruction		10	2	8
	PC6. use bending machine for rebar bending using different types of bushes and other accessories under supervision		10	2	8
	PC7. use different types of slings, shackles and lifting belts for lifting and shifting of rebars		10	2	8
	PC8. use personal protective equipment such as safety shoes, gloves, helmets, ear, plugs, nose mask, safety goggles as per requirements		10	2	8
	PC9. wear full and half body safety harness as per requirement		10	2	8
	PC10. perform basic maintenance of hand tools		5	1	4
	PC11. perform basic maintenance of power tools		10	2	8
<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>		
<b>CON/N0216: Perform cutting and</b>	PC1. select type of rebar as per instruction	<b>100</b>	5	1	4
	PC2. select hand tool or power tool for cutting of rebar as per the requirement		5	1	4

Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Marks Allocation		
			Out Of	Theory	Skills Practical
<b>manual bending of rebar for simple shape</b>	PC3. use measurement tape and mark cutting length on rebar as per instruction		10	2	8
	PC4. operate hand or power tool for cutting of rebar maintaining correct body posture		10	2	8
	PC5. straight rebar using appropriate tools before bending if required		10	2	8
	PC6. maintain correct body posture while bending rebar manually		10	2	8
	PC7. mark on rebar, use lever or pipe of suitable diameter for bending of rebar		10	2	8
	PC8. mark on bending bench for making stirrups, chairs, hanger bars		10	2	8
	PC9. place the rebar into a pipe of specified diameter		10	2	8
	PC10. bend bars to required shape and angle manually as per criteria laid down on code sheets		10	2	8
	PC11. check bent rebar for its shape, angle & length		10	2	8
			<b>Total</b>	<b>100</b>	<b>20</b>
<b>CON/N0217: Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC structures</b>	PC1. follow correct method for insertion/ fixing of rebar as per the types of structure (column, beam, slab and wall)		10	2	8
	PC2. place and fix rebar on its positions as per marking and instructions		10	2	8
	PC3. maintain uniform spacing between the bars, stirrups, links as per marking and instructions		10	2	8
	PC4. stagger the lap to avoid more than 50% of splicing		10	2	8
	PC5. tie reinforcement with approved binding wires and use ties such as hairpin tie, ring hairpin tie, ring slash tie, crown tie as per instructions		10	2	8
	PC6. Place and tie cover blocks at regular interval		10	2	8
	PC7. place and fix spacer bars to maintain proper gap between double layer rebar as per instruction		10	2	8
	PC8. place and fix chairs at specified spacing to maintain correct thickness in case of slab reinforcement		10	2	8
	PC9. follow sequence of tying for different types of pre-fabricated and in-situ R.C.C structures		10	2	8
	PC10. use binding wire economically for tying of rebar		10	2	8
	<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>	
<b>CON/N0101: Erect and</b>	PC1. level area where scaffold need to be erected and check for ground compactness if required	<b>100</b>	10	2	8

Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Marks Allocation		
			Out Of	Theory	Skills Practical
<b>dismantle temporary scaffold of 3.6 meter height</b>	PC2. shift and stack required materials, components ,tools and tackles for scaffold at the instructed location		10	2	8
	PC3. wear and use required safety gadgets and follow trade safety		10	2	8
	PC4. place base plates and sole boards on the ground as per markings and instructions		10	2	8
	PC5. use proper components and follow standard procedure for erection of 3.6 m temporary scaffold		10	2	8
	PC6. check verticality of scaffold at first level of erection and correct (if required) before moving to the next level		10	2	8
	PC7. check for rigidity, stability and support of erected scaffold		5	1	4
	PC8. fix walk-boards, guard rails, toe-boards and other components on working platform		10	2	8
	PC9. follow standard procedure for dismantling of 3.6 m temporary scaffold		10	2	8
	PC10. remove guard rails, toe boards, walk boards and other components sequentially		5	1	4
	PC11. clean and stack all components properly after dismantling		5	1	4
	PC12. maintain tidiness at work location		5	1	4
			<b>Total</b>	<b>100</b>	<b>20</b>
<b>CON/N8001: Work effectively in a team to deliver desired results at the workplace</b>	PC1. pass on work related information/ requirement clearly to the team members	<b>100</b>	10	2	8
	PC2. inform co-workers and superiors about any kind of deviations from work		5	1	4
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		5	1	4
	PC4. receive instructions clearly from superiors and respond effectively on same		5	1	4
	PC5. communicate to team members/subordinates for appropriate work technique and method		5	1	4
	PC6. seek clarification and advice as per requirement and applicability		10	2	8
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		30	6	24
	PC8. work together with co-workers in a synchronized manner		30	6	24
	<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>	



Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Marks Allocation		
			Out Of	Theory	Skills Practical
<b>CON/N9001: Work according to personal health, safety and environment protocol at construction site</b>	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authorities	<b>100</b>	5	1	4
	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities		5	1	4
	PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable		10	2	8
	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		5	1	4
	PC5. identify near miss , unsafe condition and unsafe act		5	1	4
	PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: • Head Protection (Helmets) • Ear protection • Fall Protection • Foot Protection • Face and Eye Protection • Hand and Body Protection • Respiratory Protection (if required)		10	2	8
	PC7. handle all required tools, tackles , materials & equipment safely		5	1	4
	PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines		5	1	4
	PC9. install and apply properly all safety equipment as instructed		15	3	12
	PC10. follow safety protocol and practices as laid down by site EHS department		15	3	12
	PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes		10	2	8
	PC12. apply ergonomic principles wherever required		10	2	8
	<b>Total</b>	<b>100</b>	<b>20</b>	<b>80</b>	



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