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# Training Parameters

<b>Sector</b>	Construction Skill Development Council of India
<b>Sub-Sector</b>	Real Estate and Infrastructure Construction
<b>Occupation</b>	Bar Bending and Fixing
<b>Country</b>	India
<b>NSQF Level</b>	3
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7214.1101
<b>Minimum Educational Qualification and Experience</b>	Grade 9 or Grade 8 with one year of (NTC/ NAC) after 8th or 8th grade pass with 1-year relevant experience or 5th Grade Pass with 4 years of relevant experience or Previous relevant Qualification of NSQF Level 2 with 1-year relevant experience or Previous relevant Qualification of NSQF Level 2.5 with 6 months relevant experience
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	N/A
<b>Next Review Date</b>	N/A
<b>NSQC Approval Date</b>	N/A
<b>QP Version</b>	Version number 1.0
<b>Model Curriculum Creation Date</b>	15/02/2023
<b>Model Curriculum Valid Up to Date</b>	15/08/2023
<b>Model Curriculum Version</b>	Version number 1.0
<b>Minimum Duration of the Course</b>	210 hrs
<b>Maximum Duration of the Course</b>	210 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.

- Interpret reinforcement bar detail from hand sketches
- Use materials, tools, and equipment relevant to reinforcement works
- Cut reinforcement bars and bend them manually in simple shapes
- Fabricate, place and fix reinforcement bar for pre-fabricated and in-situ RCC 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.

### Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>CON/N0214: Read and understand reinforcement bar detail from hand Sketches NOS Version No. 3.0 NSQF Level 3</b>	04:30 hrs	10:30	--	--	15:00 hrs
Read and understand reinforcement bar detail from hand Sketches	04:30 hrs	10:30	--	--	15:00 hrs
<b>CON/N0215: Use and maintain materials, tools and equipment relevant to reinforcement works NOS Version No.3.0 NSQF Level 3</b>	04:30 hrs	10:30	--	--	15:00 hrs
Use and maintain materials, tools and equipment relevant to reinforcement works	04:30 hrs	10:30	--	--	15:00 hrs
<b>CON/N0216: Perform cutting and manual bending of rebar for simple Shape NOS Version No.3.0 NSQF Level 3</b>	09:00 hrs	21:00	--	--	30:00 hrs
Perform cutting and manual bending of rebar for simple Shape	09:00 hrs	21:00	--	--	30:00 hrs



<b>CON/N0217: Assist in fabrication, placing and fixing of rebar for prefabricated and in-situ RCC structures NOS Version No.3.0 NSQF Level 3</b>	09:00 hrs	21:00	--	--	30:00 hrs
Assist in fabrication, placing and fixing of rebar for prefabricated	09:00 hrs	21:00	--	--	30:00 hrs
<b>CON/N8001 Work effectively in a team to deliver desired results at the work place NOS Version No.10.0 NSQF Level 3</b>	09:00 hrs	21:00	--	--	30:00 hrs
Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams	09:00 hrs	21:00	--	--	30:00 hrs
<b>CON/N8002 Plan and organize work to meet expected outcomes NOS Version No. 7.0 NSQF Level 3</b>	09:00 hrs	21:00	--	--	30:00 hrs
Prioritise activities and organise resources	09:00 hrs	21:00	--	--	30:00 hrs
<b>CON/N9001 Work according to personal health, safety and environment protocol at construction site NOS Version No.8 NSQF Level 3</b>	09:00 hrs	21:00	--	--	30:00 hrs
Follow safety norms as defined by organization, adopt healthy and safe work practices	09:00 hrs	21:00	--	--	30:00 hrs
<b>DGT/VSQ/N0101: Employability Skills (30 Hours) NOS Version No.1.0 NSQF Level 3</b>	30:00 hrs	00:00	--	--	30:00 hrs
Employability Skills	30:00 hrs	00:00	--	--	30:00 hrs
<b>Total Duration</b>	<b>84:00 hrs</b>	<b>126:00 hrs</b>	--	--	<b>210:00 hrs</b>



# Module Details

## Module 1: Read and understand reinforcement bar detail from hand sketches

*Mapped to CON/N0214*

### Terminal Outcomes:

- Interpret reinforcement bar detail from hand sketches

<b>Duration:</b> 04:30	<b>Duration:</b> 10:30
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List different systems of linear measurement</li> <li>• Describe the different types of reinforcement bars, their grade and standard size</li> </ul>	<ul style="list-style-type: none"> <li>• Apply the basic knowledge of units, measurement and arithmetic calculation relevant to bar bending work</li> <li>• Determine diameter, cutting length, cover, number and shape of reinforcement bars from hand sketch</li> <li>• Determine spacing details for stirrups, chairs, space bars etc. by interpreting hand sketches relevant to bar bending works</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	



## Module 2: Use and maintain materials, tools and equipment relevant to reinforcement works

*Mapped to CON/N0215*

### Terminal Outcomes:

- Use materials, tools, and equipment relevant to reinforcement works

<b>Duration: 04:30</b>	<b>Duration: 10:30</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Differentiate binding wires based on materials and thickness</li> <li>• Describe the process adopted for care and maintenance of hand and power tools used in bar bending works.</li> <li>• Explain use of lifting gears and equipment used in reinforcement work</li> <li>• State the importance of maintaining proper body postures while using hand and power tools</li> </ul>	<ul style="list-style-type: none"> <li>• Classify the reinforcement bar with respect to their grade and size.</li> <li>• Identify the different types of hand tools and power tools used for steel reinforcement works.</li> <li>• Demonstrate the use of hand tools for cutting rebars.</li> <li>• Demonstrate the use of power tools like circular cutting machine (handheld and table mounted) and shearing machine for cutting rebar.</li> <li>• Demonstrate the use of threading machine for marking threads on reinforcement bars.</li> <li>• Demonstrate the use of bar bending machine.</li> <li>• Demonstrate the use of slings, shackles and lifting belts for lifting and shifting of rebar</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Hack saw, Rail piece, pointed chisel, Sledge hammer, Bending lever, Pin plate, Working bench, Measuring Instruments, Measurement tape, Cutting machine, Bending machine, Steel cutting blade, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Safety Helmet, Safety goggles, Safety shoes, Safety belt, Cotton gloves, Ear plugs, Reflective jackets, Dust mask, Fire Prevention kit	



## Module 3: Perform cutting and manual bending of rebar for simple shape Mapped to CON/N0216

### Terminal Outcome:

- Cut reinforcement bars and bend them manually in simple shapes

<b>Duration: 09:00</b>	<b>Duration: 21:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Explain the procedure of measuring, marking and cutting of reinforcement bars into simple shapes.</li> <li>• List the types of stirrups, chairs and hanger bar</li> <li>• Describe tolerance limit for cutting and bending of the reinforcement bar</li> <li>• Explain the importance of maintaining proper body posture while cutting and bending reinforcement bars</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Demonstrate marking and cutting of rebar to the specified length using appropriate hand cutting tools.</li> <li>• Demonstrate marking and cutting of rebar to the specified length using appropriate power cutting tools.</li> <li>• Demonstrate bending of reinforcement bar to the specified shape and angle using lever/ pipe.</li> <li>• Apply basic ergonomic principles while cutting and bending of the reinforcement bars</li> <li>• Demonstrate the procedure of making stirrups, chairs and hanger bars</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>Hack saw, Rail piece, Pointed chisel, Sledge hammer, Bending lever, Pin plate, Working bench, Measuring Instruments, Measurement tape, Cutting machine, Bending machine, Steel cutting blade, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Safety Helmet, Safety goggles, Safety shoes, Safety belt, Cotton gloves, Ear plugs, Reflective jackets, Dust mask, Fire Prevention kit</p>	





## Module 4: Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC Structures

Mapped to CON/N0217

### Terminal Outcome:

- Cut reinforcement bars and bend them manually in simple shapes

Duration: 09:00	Duration: 21:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List the different types of ties (Slash tie, ring slash tie, hair-pin tie, ring hair- pin tie, crown tie, lap tie) used in bar bending works</li> <li>• Describe the sequence for tying of reinforcement bar in case of in-situ and pre-fabricated cages</li> <li>• Explain the importance of lapping and staggering of reinforcement bars</li> <li>• Describe the standard method of staggering of reinforcement bars.</li> <li>• Explain use of chairs, hanger bar, spacer bar and cover blocks</li> <li>• Describe insertion and fixing sequence for footing, column, wall, beam and slab</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate placing and fixing of chairs as per requirement for the slab reinforcement.</li> <li>• Demonstrate insertion and fixing of rebar for column, slab, beam and wall.</li> <li>• Demonstrate fixing ties using hair pin tie, ring hair pin tie, slash tie, ring slash tie and crown tie.</li> <li>• Demonstrate marking, placing, fixing and tying of stirrups for column, beam, wall &amp; slab as per the specified spacing.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Hack saw, Rail piece, Pointed chisel, Sledge hammer, Bending lever, Pin plate, Working bench, Measuring Instruments, Measurement tape, Cutting machine, Bending machine, Steel cutting blade, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Safety Helmet, Safety goggles, Safety shoes, Safety belt, Cotton gloves, Ear plugs, Reflective jackets, Dust mask, Fire Prevention kit	



## Module 5: Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams

*Mapped to CON/N8001*

### Terminal Outcome:

- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams.
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.

<b>Duration: 09:00</b>	<b>Duration: 21:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Interpret work sketches construction painting works formats, permits, protocols, checklists etc.</li> <li>• Interpret scope of construction painting works.</li> <li>• Explain effect and benefit of timely actions relevant to construction painting works with examples.</li> <li>• Explain importance of team work and its effects relevant to construction painting works with examples.</li> <li>• Explain importance of proper and effective communication and its adverse effects in case of failure of proper communication.</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Demonstrate effective communication skills while interacting with co-workers and trade seniors during the assigned task.</li> <li>• Demonstrate effective reporting to seniors as per applicable organisational norms.</li> <li>• Instruct subordinates in a clear and precise manner with respect to construction painting works.</li> <li>• Demonstrate team work during assigned task.</li> </ul>
<b>Classroom Aids:</b>	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
<b>Tools, Equipment and Other Requirements</b>	
N/A	



## Module 6: Prioritise activities and organise resources

*Mapped to CON/N8002, v.5.0*

### Terminal Outcomes:

- Demonstrate prioritizing of work activities to achieve the desired productivity.
- Demonstrate organizing of resources as per work plan prior to commencement of work.

<b>Duration: 09:00</b>	<b>Duration: 21:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain methods to upkeep, store and stack tools, materials used for domain specific works.</li> <li>• Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration.</li> <li>• Explain the procedure adopted for prioritizing an activity and sequencing of activities.</li> <li>• Explain the work plan and flow of activities in sequence for the assigned work.</li> <li>• Explain basic concept of labour productivity and work productivity.</li> <li>• Explain requisition of resources, reporting for requirement of resources orally and in written to concerned authority.</li> <li>• Explain how to minimise wastage of resources.</li> <li>• Explain the plan for waste collection and disposal after task.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the work target and plan activities to achieve the desired productivity.</li> <li>• Demonstrate requisition of resource citing an example.</li> <li>• Demonstrate the planning for various activities relevant to task as per the scope and schedule.</li> <li>• Demonstrate how to organise the required tool, manpower and material resources for the assigned task.</li> <li>• Select required quantity of materials, tools or devices for defined work activities.</li> <li>• Demonstrate how to prioritize all works/ activities to maximise output.</li> <li>• Demonstrate optimum use of resources while performing domain specific work activities.</li> <li>• Demonstrate waste collection and disposal as per organisational norms.</li> <li>• Demonstrate completion of work within stipulated time and plan.</li> </ul>
<b>Classroom Aids:</b>	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
<b>Tools, Equipment and Other Requirements</b>	
N/A	



## Module 7: Follow safety norms as defined by organization, adopt healthy and safe work practices

*Mapped to CON/N9001*

### Terminal Outcome:

- Identify various hazards at construction site.
- Use PPE's relevant to construction painting task.
- Perform safe waste disposal at construction site.

<b>Duration:</b> 09:00	<b>Duration:</b> 21:00
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the types of hazards at the construction sites and identify the hazards specific to the bar bending work.</li> <li>• Recall the safety control measures and actions to be taken under emergency situation.</li> <li>• Explain the classes of fire and types of fire extinguishers.</li> <li>• Explain the importance of participation of workers in safety drills.</li> <li>• Explain the reporting procedure to the concerned authority in case of emergency situations.</li> <li>• Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories.</li> <li>• Explain different types of waste generated at construction site including their disposal method.</li> <li>• Explain the purpose and importance of vertigo test.</li> <li>• List out basic medical tests required for working at construction site.</li> <li>• Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites.</li> <li>• Explain the importance of housekeeping works.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the operating procedure of the fire extinguishers.</li> <li>• Demonstrate different methods involved in providing First aid to the affected person</li> <li>• Use PPEs as per work requirements during construction painting job.</li> <li>• Demonstrate vertigo test.</li> <li>• Demonstrate safe waste disposal practices followed at construction site.</li> <li>• Demonstrate safe housekeeping practices.</li> </ul>
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
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	



## Module 8: Employability Skills

Mapped to DGT/VSQ/N0101

### Terminal Outcome:

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for apprenticeship & Jobs

Duration: 30:00	Duration: 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Discuss the importance of Employability Skills in meeting the job requirements</li> <li>• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.</li> <li>• Show how to practice different environmentally sustainable practices</li> <li>• Discuss 21st century skills.</li> <li>• Display positive attitude, self-motivation, problem solving, time management skills and continuous learning mindset in different situations.</li> <li>• Use appropriate basic English sentences/phrases while speaking</li> <li>• Demonstrate how to communicate in a well-mannered way with others.</li> <li>• Demonstrate working with others in a team</li> <li>• Show how to conduct oneself appropriately with all genders and PwD</li> <li>• Discuss the significance of reporting sexual harassment issues in time</li> <li>• Discuss the significance of using financial products and services safely and securely.</li> <li>• Explain the importance of managing expenses, income, and savings.</li> <li>• Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws</li> <li>• Show how to operate digital devices and use the</li> </ul>	

<p>associated applications and features, safely and securely</p> <ul style="list-style-type: none"> <li>• Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely</li> <li>• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges</li> <li>• Differentiate between types of customers</li> <li>• Explain the significance of identifying customer needs and addressing them</li> <li>• Discuss the significance of maintaining hygiene and dressing appropriately</li> <li>• Create a biodata</li> <li>• Use various sources to search and apply for jobs</li> <li>• Discuss the significance of dressing up neatly and maintaining hygiene for an interview</li> <li>• Discuss how to search and register for apprenticeship opportunities</li> </ul>	
<b>Classroom Aids:</b>	
Computer, printer, projector, white board/ flip chart, marker and duster	
<b>Tools, Equipment and Other Requirements</b>	
Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below), UPS, Scanner cum Printer, Computer Tables, Computer Chairs, LCD Projector, White Board 1200mm x 900mm	

## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Post-Graduation/Graduation in Engineering	M. Tech in Civil/B. Tech in civil	Half Year	Civil Engineering	0	Civil Engineering	As a pre-requisite for new entrant, no prior experience in training
Diploma	Diploma in Civil	One year	Civil Engineering	0	Civil Engineering	



<b>Graduation/ Ex. Army /ITI /12<sup>th</sup> pass</b>	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12 <sup>th</sup> pas	Two year s	Working as Bar bender and Steel fixer/ Bar bending domain /supervisory work of Bar bending domain	0	Working as Bar bender and Steel fixer/ Bar bending domain /supervisory work of Bar bending domain	/assessment is mandatory. However if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience
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<b>Trainer Certification</b>	
<b>Domain Certification</b>	<b>Platform Certification</b>
Trainer- 70 % in each NOS of Qualification Pack “CON/Q0206 v 2.0” & 80% overall ,	Trainers - 70% in each NOS of Qualification Pack “MEP/Q2601,v2.0” 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 in Engineering	M. Tech in Civil/B. Tech in civil	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 in Civil	Two years	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12 <sup>th</sup> pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12 <sup>th</sup> pass	Three years	Working as Bar bender and Steel fixer/ Bar bending domain /supervisory work of Bar bending domain	0	Working as Bar bender and Steel fixer/ Bar bending domain /supervisory work of Bar bending domain	

Assessor Certification	
Domain Certification	Platform Certification
Assessor- 70% in each NOS of Qualification Pack "CON/Q0206 v 2.0" & 80% overall	Assessor-80% in each NOS of Qualification Pack "MEP/Q2701,v2.0", and overall 80%





## Assessment strategy

### Assessment system Overview

Assessment is done through CSDCI affiliated Assessment Agencies. Assessors are trained & certified by CSDCI after training of assessors 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 30:70 ratio for Associate Bar Bender and Steel Fixer 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 is 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 training provider will ensure adequate tools and materials are available to conduct the practical test.

If number of candidates are more than 30, 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 Associate Bar Bender and Steel Fixer is summarized below

Assessment Type	Formative or Summative	Strategies	Weightage	Duration (hours)
Knowledge	Summative	MCQ/Viva	30	1.0
skill	Summative	Structured practical task	70	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 criteria under knowledge and skill. The criteria 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.

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 which 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