Model Curriculum

QP Name: Reinforcement Fitter

QP Code: CON/Q0204

QP Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

Construction Skill Development Council of India|| Construction Skill Development Council of India (CSDCCI), CPB – 103 & 104, Block-4B, DLF corporate Park, Phase – III, MG Road Gurugram – 122002
Near Guru Dronacharya Metro Station

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Training Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure Construction
Occupation	Bar Bending & Fixing
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7214.9900
Minimum Educational Qualification and Experience	8th Class with 5-10 Years of experience (a non-trained worker should have minimum 5 years' site experience in the bar bending and fixing occupation) OR 8th Class with 2-3 Years of experience (should have minimum 2 years' site experience as a certified NSQF Level-4 Bar Bender & Steel fixer)
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	31/03/2022
Next Review Date	31/03/2025
NSQC Approval Date	31/03/2022
QP Version	Version number 2.0
Model Curriculum Creation Date	1/10/2020
Model Curriculum Valid Up to Date	31/03/2025
Model Curriculum Version	Version number 1.0
Minimum Duration of the Course	450 hrs
Maximum Duration of the Course	450 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 the given reinforcement drawing, general arrangement drawings and bar bending schedule for complex reinforcement structure.
- Demonstrate the use of hand and power tools to cut and bend reinforcement bars.
- Demonstrate fabrication and fixing of reinforcement bars for R.C.C and complex structures.
- Perform checks to ensure optimum utilization of reinforcement bars
- Explain the advantages of mechanical couplers over lapping.
- Demonstrate the use of hand tools for fixing of mechanical couplers.
- Demonstrate the fixing of mechanical couplers as per specifications.
- 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.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.
- Demonstrate prioritizing of work activities to achieve the desired productivity.
- Demonstrate organizing of resources as per work plan prior to commencement of work.
- Identify various hazards at construction site.
- Use PPE's relevant to bar bending and steel fixing task.
- Perform safe waste disposal at construction site.
- Demonstrate the activities to check the spread of infection as per medical/ organizational guidelines.

Compulsory Modules

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

NOS and Module Details	Theory Duration (Hrs)	Practical Duration (Hrs)	On-the-Job Training Duration (Mandatory) (Hrs)	On-the-Job Training Duration (Recommended) (Hrs)	Total Duration (Hrs)
Bridge Module	08:00	00:00	--	--	08:00
CON/N0207 Fabricate and fix reinforcement bars for complex structures as per drawings, Bar Bending Schedule (BBS) and standard code provision NOS Version No.2.0 NSQF Level 4	74:30	187:30	--	--	262:00
Carry out the preparatory works for fabrication and fixing of	**26:00**	**70:00**	--	--	**96:00**

reinforcement for complex structure as per drawings, BBS and standard codes provision					
Fabricate and fix reinforcement for complex structure as per drawings, BBS and standard codes provision	48:30	117:30	--	--	166:00
CON/N0208 Install mechanical couplers for reinforcement works NOS Version No.2.0 NSQF Level 4	30:00	90:00	--	--	120:00
Place and fix mechanical couplers for reinforcement works NOS Version No.1.0 NSQF Level 4	30:00	90:00	--	--	120:00
CON/N8001 *Work effectively in a team to deliver desired results at the workplace* NOS Version No.6 NSQF Level 4	07:30	07:30	--	--	15:00
Communicate effectively at the workplace	07:30	07:30	--	--	15:00
CON/N8002 Plan and organize work to meet expected outcomes NOS Version No. 5 NSQF Level 4	07:30	07:30	--	--	15:00
Prioritise activities and organise resources to meet desired outcome	07:30	07:30	--	--	15:00
CON/N9001 *Work according to personal health, safety and environment protocol at construction site* NOS Version No.6 NSQF Level 4	07:30	22:30	--	--	30:00
Follow safety norms as defined by organization, adopt healthy and safe work practices	07:30	22:30	--	--	30:00
Total Duration	135:00	315:00	--		450:00

Module Details

Module 1: Introduction to the job role of Reinforcement fitter

Bridge Module

Terminal Outcomes:

- Explain the role and responsibilities of reinforcement fitter.
- Discuss the career progression for the reinforcement fitter.

Duration: *08:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the role and responsibilities of a reinforcement fitter. • Define the personal attributes required in bar bending and fixing occupation. • Explain the future possible progression and career development options of a reinforcement fitter.	
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers, Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
N/A	

Module 2: Carry out preparatory works for fabrication and fixing of reinforcement for complex structure as per drawings, BBS and standard codes provision

Mapped to NOS/N0207, v2.0

Terminal Outcomes:

- Interpret the given reinforcement drawing, general arrangement drawings and bar bending schedule for complex reinforcement structure.
- Cut and bend reinforcement bar using power tools.

Duration: *26:00*	**Duration**: *70:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Recognise the various details such as diameter of bar, cut length, shape, spacing and number of bars from the general arrangement drawing, reinforcement drawings and bar bending schedule (BBS). • Discuss the different power tools and its accessories such as circular cutting machine, shear cutting machine, bending machine, CNC machine etc., used for reinforcement work of complex structure. • Calculate cutting length for various shapes of reinforcement bars used in complex structure. • Explain working procedure of automatic bar tying machine and its accessories.	• Analyse the general arrangement, reinforcement drawings and bar bending schedule for details such as diameter of bar, cut length, shape, spacing and number of bars. • Demonstrate cutting and bending of reinforcement bar using bar bending machine and power bending machine as per approved drawing/bar bending schedule. • Demonstrate checks for tagging/ numbering and stacking of prepared reinforcement bars.
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
Chisel, Hammer, Bar tying hook, Bending lever, Gauge measure, Podger Spanner, Hack saw blade , and frame, Wrench, Steel scale, Tri Scale, Spirit level, Plumb bob, Measurement tape, Pin plate, Cutting machine, Bending machine, Threading machine, Forging machine, Reinforcement steel bar, Binding wires, Cover blocks, Wooden planks, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Thread protection cap, Different types of mechanical coupler (threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc.), Safety Helmet , Safety goggles , Safety shoes , Safety belt, Cotton gloves, Ear plugs , Reflective jackets, Dust mask, Fire Prevention kit	

Module 3: Fabricate and fix reinforcement for complex structure

Mapped to NOS/N0207, v2.0

Terminal Outcomes:

- Demonstrate fabrication of cage for R.C.C and complex structures.
- Perform checks to ensure optimum utilization of reinforcement bars.
- Demonstrate placing and fixing of fabricated cages.

Duration: *48:00*	**Duration**: *117:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the insertion and fixing sequence for reinforcement bars to fabricate cage for different types of complex R.C.C structures such as arches, domes and circular structures including fixing of inserts, sleeves, conduit and anchors. • Explain procedure for fabricating and placing pre-fabricated cage of reinforcement steel. • Explain purpose of hooks, splices, spacer bar, chairs, shear studs, cover block and insert plates. • Explain the visual checks conducted to ascertain the quality of reinforcement bars and binding wire. • Recall tolerance for cutting and bending of reinforcement steel work. • Explain the function of different types of ties for tying reinforcement for complex structures. • Explain the importance of development length, hook length, lap length, bend length and crank height. • Discuss the importance of lapping and its requirement. • Discuss the various checks conducted to ascertain the accuracy of reinforcement works.	• Demonstrate bending of reinforcement bar using bar bending machine. • Demonstrate insertion and fixing of reinforcement steel for different types of R.C.C structural element (Arches, Domes and Circular structures) as per reinforcement drawing/BBS including fixing of inserts, sleeves, conduit and anchors. • Demonstrate the marking, placing and fixing of pre- fabricated cages as per drawing. • Demonstrate installation of hooks, splices, spacer bar, chairs, shear studs, cover block etc. as per drawings and specifications. • Demonstrate various checks conducted to ascertain the accuracy of reinforcement works such as cutting length ,spacing, placement and lapping of reinforcement bars, use of correct ties and other such relevant details.
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers ,Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
Chisel, Hammer, Bar tying hook, Bending lever, Gauge measure, Podger Spanner, Hack saw blade , and frame, Wrench, Steel scale, Try Scale, Spirit level, Plumb bob, Measurement tape, Pin plate, Cutting machine, Bending machine, Threading machine, Forging machine, Reinforcement steel bar, Binding wires, Cover blocks, Wooden planks, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Thread protection cap, Different types of mechanical coupler (threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc.), Safety Helmet , Safety goggles , Safety shoes , Safety belt, Cotton gloves, Ear plugs , Reflective jackets, Dust mask, Fire Prevention kit	

Module 4: Place and fix mechanical couplers for reinforcement works

Mapped to NOS/N0208, v2.0

Terminal Outcome:

- Explain the advantages of mechanical couplers over lapping.
- Demonstrate the use of hand tools for fixing of mechanical couplers.
- Demonstrate the fixing of mechanical couplers as per specifications.

Duration: *30:00*	**Duration**: *90:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the threading process of reinforcement bars. • Explain the use of equipment used for forging and threading of reinforcement bars. • Explain the type of tools and grout materials used for fixing of mechanical couplers. • List the advantages and disadvantages of reinforcement bar splicing/lapping. • Explain requirement of mechanical coupler and its advantage over the splicing/lapping of reinforcement bars. • Explain the use of various types of mechanical coupler such as threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc. • Explain the ways to provide protection to the edge of threaded reinforcement bars. • Explain standard procedure for fixing of mechanical couplers. • Explain the potential hazards involved in threading of reinforcement bars and its remedies. • Describe the checks conducted to ascertain the accuracy of installed couplers.	• Demonstrate the use of plastic thread protectors to prevent damage to the threaded bar ends. • Demonstrate checks for proper threading of reinforcement bars. • Demonstrate fixing of different types of mechanical coupler such as threaded couplers, taper threaded couplers, grout filled couplers, combo grout filled/threaded filled couplers etc. using hand tools. • Demonstrate various checks to ascertain the accuracy of installed couplers.
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers ,Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
Chisel, Hammer, Bar tying hook, Bending lever, Gauge measure, Podger Spanner, Hack saw blade , and frame, Wrench, Steel scale, Try Scale, Spirit level, Plumb bob, Measurement tape, Pin plate, Cutting machine, Bending machine, Threading machine, Forging machine, Reinforcement steel bar, Binding wires, Cover blocks, Wooden planks, Reinforcement bar tying machine, Lifting appliance (Sling, Shackle, Belts), Thread protection cap, Different types of mechanical coupler (threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc.), Safety Helmet , Safety goggles , Safety shoes , Safety belt, Cotton gloves, Ear plugs , Reflective jackets, Dust mask, Fire Prevention kit	

Module 5: Communicate effectively at workplace

Mapped to CON/N8001, v 6.0

Terminal Outcomes:

- 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.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.

Duration: *07:30*	**Duration**: *07:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the effects and benefits of timely actions relevant to the task at hand with examples. • Explain the importance of teamwork and its effects relevant to the task at hand with examples. • Explain the importance of proper and effective communication and its adverse effects in case of failure of proper communication. • Discuss about gender and its related concept: gender equality, gender equity (group work) • Discuss different types of disabilities (physical, mental, intellectual or sensory impairment). • Discuss the activities sensitive to the cultural diversity, disabilities and gender neutrality at the workplace. • Discuss the basic rules and regulations related to gender sensitivity, disabilities, and cultural diversity, with their impact on operations of a workplace. • Discuss how to take initiative in resolving issues among co-workers in a given situation. • Discuss reporting procedure followed at the workplace.	• Apply effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Use appropriate writing skills and verbal communication reporting as per commonly applicable organisational norms. • Demonstrate teamwork skills during assigned task. • Demonstrate acceptable interpersonal transactions with individuals having disabilities (physical, mental, intellectual or sensory impairment) or cultural diversity. • Demonstrate the process modifications required to make the workplace free from gender biases.
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers, Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
NA	

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.

Duration: *07:30*	**Duration**: *07:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain methods to upkeep, store and stack tools, materials used for domain specific works. • Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration. • Explain the procedure adopted for prioritizing an activity and sequencing of activities. • Explain the work plan and flow of activities in sequence for the assigned work. • Explain basic concept of labour productivity and work productivity. • Explain requisition of resources, reporting for requirement of resources orally and in written to concerned authority. • Explain how to minimise wastage of resources. • Explain the plan for waste collection and disposal after task.	• Identify the work target and plan activities to achieve the desired productivity. • Demonstrate requisition of resource citing an example. • Demonstrate the planning of assigned bar bending and steel fixing works tasks as per scope and schedule. • Demonstrate how to organise the required tool, manpower and material resources for the assigned task. • Select required quantity of materials, tools or devices for defined purpose of bar bending and steel fixing work activities. • Demonstrate how to prioritize all works/ activities to maximise output. • Demonstrate optimum use of resources while performing domain specific work activities. • Demonstrate waste collection and disposal as per organisational norms. • Demonstrate completion of work within stipulated time and plan.
Classroom Aids:	
Black/White board, Projector/LED Monitor, Computer, Registers ,Trade specific charts and other teaching aids	
Tools, Equipment and Other Requirements	
NA	

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

Mapped to CON/N9001, v.6.0

Terminal Outcome:

- Identify various hazards at construction site.
- Use PPE's relevant to bar bending and steel fixing task.
- Perform safe waste disposal at construction site.
- Demonstrate the activities to check the spread of infection as per medical/ organizational guidelines.

Duration: *07:30*	**Duration**: *22:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the types of hazards at the construction sites and identify the hazards specific to the domain related works. • Recall the safety control measures and actions to be taken under emergency situation. • Explain the classes of fire and types of fire extinguishers. • Explain the importance of participation of workers in safety drills. • Explain the reporting procedure to the concerned authority in case of emergency situations. • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories. • Explain different types of waste at construction sites and their disposal method. • Explain the purpose and importance of vertigo test at construction site. • List out basic medical tests required for working at construction site. • Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites. • Explain the importance of housekeeping works. • List different types of infectious disease that can spread/ originate at a construction site • Discuss the ways of transmission of the various infectious disease. • Explain the methods to check the spread of the infectious disease. • Describe the symptoms and cure of the various infectious disease.	• Demonstrate the operating procedure of the fire extinguishers. • Demonstrate use of PPEs as per work requirement. • Demonstrate vertigo test. • Demonstrate safety techniques to be adopted in case of accidents. • Demonstrate safe waste disposal practices followed at construction site. • Demonstrate safe housekeeping practices. • Demonstrate the practices to maintain personal hygiene, workplace hygiene and site/ workplace sanitization. • Demonstrate the methods to clean and disinfect all materials, tools and supplies before and after use. • Demonstrate the procedure to report to the concerned authority regarding the outbreak/ hazard of any infectious disease/ pandemic.

Classroom Aids:
Black/White board, Projector/LED Monitor, Computer, Registers ,Trade specific charts and other teaching aids
Tools, Equipment and Other Requirements
Leather Hand Gloves, Jump suit, Wire brush, Hand & Leg guards leather, Safety goggles, Nose mask, Ear protection, Fire extinguishers, Sand buckets Flashback arrestors, Welding helmet, Welding glass

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	Two	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	Three	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pass	Six	Working as reinforcement fitter/ bar bending and fixing domain/supervisory work of bar bending and steel fixing domain	0	Working as reinforcement fitter/ bar bending and fixing domain/supervisory work of bar bending and steel fixing domain	

Trainer Certification	
Domain Certification	**Platform Certification**
Trainer- 70 % in each NOS of Qualification Pack "Reinforcement Fitter CON/Q0204 v 2.0" & 80% overall ,	Trainers - 70% in each NOS of Qualification Pack "Trainer MEP/Q2601"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	Two	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	Five	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pass	Seven	Working as reinforcement fitter/bar bending and steel fixing domain/supervisory work of bar bending and fixing domain	0	Working as reinforcement fitter/bar bending and steel fixing domain/supervisory work of bar bending and fixing domain	

Assessor Certification	
Domain Certification	**Platform Certification**
Assessor- 70% in each NOS of Qualification Pack "Reinforcement Fitter CON/Q0204 v 2.0" & 80% overall	Assessors- 80% in each NOS of Qualification Pack "Assessor MEP/Q2701"and overall 80%.

Assessment strategy

Assessment system Overview

Assessment is done through CSDCI affiliated Assessment Body. Assessors are trained & certified by CSDCI after a 10-day training of assessor's 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 ratios for reinforcement fitter 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 are 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 Assessment agency/ Assessor 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 reinforcement fitter is summarized below:

Assessment Type	**Formative or Summative**	**Strategies**	**Weightage**	**Duration** **(hours)**
Knowledge	Summative	MCQ/Viva	30	1.5
skill	Summative	Structured practical task	70	5.5

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 criterion under knowledge and skill. The criterion 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
Declarative Knowledge	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.
Key Learning Outcome	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).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	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.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do **upon the completion of the training**.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** 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
RCC	Reinforced Cement Concrete
Rebars	Reinforcement bars
BBS	Bar Bending Schedule
PPEs	Personal Protective Equipment