Model Curriculum

QP Name: Reinforcement Fitter

QP Code: CON/Q0204

Version: 4.0

NSQF Level: 4

Model Curriculum Version: 4.0

Construction Skill Development Council of India|| Tower 4B, DLF Corporate Park, 201&, 202 4B, Mehrauli-Gurgaon Rd, DLF Phase 3, Gurugram, Haryana 122002

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Training Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure Construction
Occupation	Bar Bending and Fixing
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7214.9900
Minimum Educational Qualification and Experience	12th Grade pass OR Completed 2nd year of 3-year diploma after 10th (in Civil Engineering) OR 11th Grade pass with 1 years of relevant experience OR 10th Grade pass with 2 years of relevant experience OR 8th Grade pass with 4 years of relevant experience OR Previous relevant Qualification of NSQF Level 3 (Assistant Bar Bender and Steel Fixer) with 3-year relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	30/04/2025
Next Review Date	30/04/2028
NSQC Approval Date	08/05/2025
QP Version	4.0
Model Curriculum Creation Date	30/04/2025
Model Curriculum Valid Up to Date	30/04/2028
Model Curriculum Version	4.0
Minimum Duration of the Course	450 Hours
Maximum Duration of the Course	450 Hours

Program Overview

This section summarises 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 to:

- Elucidate ways to fabricate and fix reinforcement bars for complex structures as per drawings, Bar Bending Schedule (BBS) and standard code provision.
- Describe the process of installing mechanical couplers for reinforcement works.
- Explain the importance of working effectively in a team to deliver desired results at the workplace.
- Elucidate ways to plan and organize work to meet expected outcomes.
- Explain the process of managing workplace for safe and healthy work environment.

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
CON/N0207: Fabricate and fix reinforcement bars for complex structures as per drawings, Bar Bending Schedule (BBS) and standard code provision **NOS Version- 4.0** **NSQF Level- 4**	**45:00**	**105:00**	**30:00**	**00:00**	**180:00**
Module 1: Introduction to the role of a Reinforcement Fitter	05:00	00:00	00:00	00:00	05:00
Module 2: Process of fabricating and fixing reinforcement bars for complex structures as per drawings, Bar Bending Schedule (BBS) and standard code provision	40:00	105:00	30:00	00:00	175:00
CON/N0208: Install mechanical couplers for reinforcement works **NOS Version- 4.0** **NSQF Level- 4**	**30:00**	**90:00**	**30:00**	**00:00**	**150:00**
Module 3: Process of installing mechanical couplers for reinforcement works	30:00	90:00	30:00	00:00	150:00
CON/N9001: Work according to personal health, safety and	**05:00**	**25:00**	**0:00**	**00:00**	**30:00**

environment protocols at construction site **NOS Version- 3.0** **NSQF Level- 4**					
Module 4: Follow safety norms as defined by organization, adopt healthy and safe work practices	05:00	25:00	0:00	00:00	30:00
CON/N8001: Work effectively in a team to deliver desired results at the workplace **NOS Version- 3.0** **NSQF Level- 4**	**05:00**	**25:00**	**0:00**	**00:00**	**30:00**
Module 5: Work effectively in a team to deliver desired results at the workplace	05:00	25:00	0:00	00:00	30:00
CON/N8002: Plan and organize work to meet expected outcomes **NOS Version- 4.0** **NSQF Level- 4**	**05:00**	**25:00**	**0:00**	**00:00**	**30:00**
Module 6: Plan and organize work to meet expected outcomes	05:00	25:00	0:00	00:00	30:00
DGT/VSQ/N0101: Employability Skills **NOS Version- 1.0** **NSQF Level- 2**	**30:00**	**00:00**	**0:00**	**00:00**	**30:00**
Module 7: Employability Skills	30:00	00:00	0:00	00:00	30:00
Total Duration	**120:00**	**270:00**	**60:00**	**00:00**	**450:00**

Module Details

Module 1: Introduction to the role of a Reinforcement Fitter

Mapped to CON/N0207, v4.0

Terminal Outcomes:

- Discuss the job role of a Reinforcement Fitter.

Duration: **05:00**	**Duration**: **0:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the Construction industry and its sub-sectors. • Discuss the role and responsibilities of a Reinforcement Fitter. • Identify various employment opportunities for a Reinforcement Fitter.	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of Fabricating and Fixing Reinforcement Bars for Complex Structures as per Drawings, Bar Bending Schedule (BBS) and Standard Code Provision

Mapped to CON/N0207, v4.0

Terminal Outcomes:

- Explain the process of interpreting drawing & bar bending schedule.
- Elucidate ways to cut and bend reinforcement bars as per bar bending schedule (BBS).
- Elucidate ways to direct the teammates for the fabrication and fixing of reinforcement bars for complex structures (Arches, Domes, and other circular structures) as per bar bending schedule and drawings
- Explain the process of checking the quality of reinforcement work ensuring minimum wastage and optimum utilization.

Duration: 40:00	Duration: 105:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain how to read and interpret reinforcement drawing/sketches. • Explain how to read and interpret details from bar bending schedule. • List units of measurements including their conversion. • Explain arithmetic and basic geometric calculations. • Explain the use of power tools and its accessories for cutting and bending of reinforcement bars. • Explain the use of automatic bar tying machine and its accessories. • Explain the basics of bar positioning in complex reinforcement work. • List different types of stirrups and ties. • Explain the importance of hook length, bend length, lap length, development length and crank length. • Elucidate different types of binding wire, and their cutting length for different purposes.	• Demonstrate how to interpret details such as type, dimension, layout plan and other reinforcement details from the drawings. • Demonstrate how to interpret the terms used in drawing and Bar bending Schedule (BBS). • Demonstrate how to interpret BBS/ drawings to calculate the cutting length of reinforcement bar. • Demonstrate the process of using appropriate personal protective equipment and follow organizational safety guidelines while cutting and bending of reinforcement bars. • Show how to bend the reinforcement bars using bending machines/tools as per the approved drawings/ bar bending schedule (BBS). • Show how to mark, place and fix reinforcement bars and fabricated cages at its required position. • Demonstrate the process of installing hooks, splices, insert plates, bar supports (spacer, chairs), shear studs, and cover blocks etc. as per drawings and specifications. • Show how to fix reinforcement bars in complex structures like arches, domes, etc. using cover blocks, spacers and templates. • Show how to fabricate and fix prefabricated cages as per site

	requirement and drawings. • Show how to check accuracy of reinforcement work with reference to spacing and placement of reinforcement bars.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
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: Process of Installing Mechanical Couplers for Reinforcement Works

Mapped to CON/N0208, v4.0

Terminal Outcomes:

- Explain the process of preparing for the installation of mechanical couplers used in the joining of reinforcement bars.
- Describe the process of installing mechanical / reinforcement couplers.

Duration: 30:00	**Duration: 90:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the use of related safety gears and equipment while installing mechanical couplers. • Explain the importance and use of mechanical coupler. • Explain manufacturer's instruction/specifications for installing mechanical couplers. • List the potential mechanical hazards while threading of reinforcement bars and fixing of mechanical couplers. • Explain different types of mechanical couplers, their application and suitability. • Discuss the maintenance and protection of mechanical connections. • List various types of tools and grout materials used for fixing mechanical couplers. • State the lap length of reinforcement bar for different diameter and alternate use of mechanical coupler.	• Demonstrate how to check that reinforcement bars are threaded properly using threading machine and are covered with plastic thread protector. • Demonstrate the standard procedure followed for fixing of mechanical couplers. • Demonstrate how to use appropriate personal protective equipment and follow organizational safety guidelines while cutting and bending of reinforcement bars. • Show how to position the cast and continuation bar and fix them appropriately to the coupler. • Show how to tighten the connections by hand or by using appropriate torque wrench. • Demonstrate the use of different types of couplers such as threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc. appropriately.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
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: Work according to personal health, safety and environment protocols at construction site

Mapped to CON/N9001, v3.0

Terminal Outcomes:

- Explain the importance of following safety norms as defined by organization.
- Explain the need to adopt healthy & safe work practices.
- Describe the process of implementing good housekeeping and environment protection process and activities.
- Explain the importance of following infection control guidelines as per applicability.

Duration: 05:00	Duration: 25:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines. • Explain different types of safety hazards at construction sites. • Discuss basic ergonomic principles as per applicability. • Describe the procedure for responding to accidents and other emergencies at site. • Explain the importance of handling tools, equipment, and materials as per applicable norms. • Explain the effect of construction material on health and environments as per applicability. • Describe various environmental protection methods as per applicability. • Explain the storage requirement of waste including non-combustible scrap material and debris, combustible scrap material and debris, general construction waste and trash (non-toxic, non-hazardous), any other hazardous wastes and any other flammable wastes at the appropriate location. • Explain how to use hazardous material in a safe and appropriate manner as per applicability. • Explain types of fire. • Describe the procedure of operating different types of fire extinguishers. • State safety relevant to tools, tackles, and equipment as per applicability. • List housekeeping activities relevant to	• Demonstrate how to follow emergency and evacuation procedures in case of accidents, fires, and natural calamities. • Show how to operate different types of fire extinguishers corresponding to various types of fires as per EHS guideline. • Demonstrate the use of appropriate Personal Protective Equipment (PPE) as per work requirements for: Head Protection, Ear protection, Fall Protection, Foot Protection, Face and Eye Protection, Hand and Body Protection, and Respiratory Protection (if required). • Demonstrate how to check and install all safety equipment as per standard guidelines. • Show how to collect, segregate and deposit construction waste into appropriate containers based on their toxicity or hazardous nature. • Show how to clean and disinfect all materials, tools and supplies before and after use.

task. • Elucidate ways of transmission of infection • Explain the ways to manage infectious risks at the workplace. • Describe different methods of cleaning, disinfection, sterilization, and sanitization. • List the symptoms of infection like fever, cough, redness, swelling, and inflammation.	
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
Leather Hand Gloves, Jump suit, Wire brush, Hand and Leg guard leather, Safety goggles, Nose mask, Ear protection, Fire extinguishers, Sand buckets Flashback arrestors, Welding helmet, Welding glass, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board	

Module 5: Work effectively in a team to deliver desired results at the workplace

Mapped to CON/N8001, v3.0

Terminal Outcomes:

- Explain the importance of interacting and communicating in an effective manner.
- Elucidate ways to support co-workers to execute the project requirements.
- Elucidate ways to practice inclusion at workplace.

Duration: 05:00	Duration: 25:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Elucidate own roles and responsibilities. • Explain the importance of effective communication. • Elucidate the consequence of poor teamwork on project outcomes, timelines, safety at the construction site, etc. • Explain different modes of communication used at workplace. • Explain the importance of creating healthy and cooperative work environment among the gangs of workers. • Elucidate applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement. • Explain the importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timeliness, safety, risks at the construction project site. • Explain the importance and need of supporting co-workers facing problems for the smooth functioning of work. • Discuss the fundamental concept of gender equality. • Explain how to recognise and be sensitive to issues of disability, culture and gender. • Discuss legislation, policies, and procedures relating to gender sensitivity and cultural diversity including their impact on the area of operation.	• Demonstrate how to pass on work related information/ requirement clearly to the team members. • Show how to report any unresolved problem to the supervisor immediately. • Demonstrate ways to hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams. • Demonstrate ways to work together with co-workers in a synchronized manner. • Demonstrate effective implementation of gender neutral practices at workplace. • Demonstrate ways to address discriminatory and offensive behaviour in a professional manner as per organizational policy.
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 6: Plan and organize work to meet expected outcomes

Mapped to CON/N8002, v4.0

Terminal Outcomes:

- Elucidate ways to plan and prepare for work.
- Explain the importance of organising required resources as per work plan.
- Explain the importance of completing work as per the plan.

Duration: 05:00	Duration: 25:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of proper housekeeping including safe waste disposal. • Discuss policies, procedures and work targets set by superiors. • Explain how to identify work activities that need to be planned and organized. • Explain how to determine the task requirements. • Explain how to determine the quality requirements related to the task. • Elucidate how to undertake all aspect of planning and organizing the task, including interpretation of task, reading drawing/schedules, arranging resources, reporting problems etc. • Explain how to implement the planned activities.	• Demonstrate ways to determine the work requirements corresponding to task(drawings/schedules/instructions/ methodology), safety, tools and equipment prior to commencement of task. • Show how to prepare the work areas in coordination with team members. • Demonstrate the procedures for organizing the required materials, tools and tackles required for the task. • Demonstrate how to use resources in an optimum manner to avoid any unnecessary wastage. • Demonstrate the practices to use tools, tackles and equipment carefully to avoid damage. • Show how to clean and organise the workplace after completion of task.
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 7: Employability Skills

Mapped to DGT/VSQ/N0101, v1.0

Duration: 30:00
Key Learning Outcomes
Introduction to Employability Skills Duration: 1 Hour After completing this programme, participants will be able to: 1. Discuss the importance of Employability Skills in meeting the job requirements **Constitutional values - Citizenship Duration: 1 Hour** 2. Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. 3. Show how to practice different environmentally sustainable practices **Becoming a Professional in the 21st Century Duration: 1 Hours** 4. Discuss 21st century skills. 5. Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. **Basic English Skills Duration: 2 Hours** 6. Use appropriate basic English sentences/phrases while speaking **Communication Skills Duration: 4 Hour** 7. Demonstrate how to communicate in a well -mannered way with others. 8. Demonstrate working with others in a team **Diversity & Inclusion Duration: 1 Hour** 9. Show how to conduct oneself appropriately with all genders and PwD 10. Discuss the significance of reporting sexual harassment issues in time **Financial and Legal Literacy Duration: 4 Hours** 11. Discuss the significance of using financial products and services safely and securely. 12. Explain the importance of managing expenses, income, and savings. 13. Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws **Essential Digital Skills Duration: 3 Hours** 14. Show how to operate digital devices and use the associated applications and features, safely and securely 15. Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely **Entrepreneurship Duration: 7 Hours** 16. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges **Customer Service Duration: 4 Hours** 17. Differentiate between types of customers 18. Explain the significance of identifying customer needs and addressing them 19. Discuss the significance of maintaining hygiene and dressing appropriately **Getting ready for apprenticeship & Jobs Duration: 2 Hours** 20. Create a biodata 21. Use various sources to search and apply for jobs 22. Discuss the significance of dressing up neatly and maintaining hygiene for an interview 23. Discuss how to search and register for apprenticeship opportunities

Module 8: On-the-Job Training

Mapped to Reinforcement Fitter, v 4.0

CON/N0207: Process of Fabricating and Fixing Reinforcement Bars for Complex Structures as per Drawings, Bar Bending Schedule (BBS) and Standard Code Provision, v 4.0
Mandatory Duration: 30:00 Hours
Location: On-Site
Terminal Outcomes • Demonstrate how to read and interpret working sketches prior to laying of tiles. • Demonstrate the process of installing button marks / level pads as per the tiling requirements using common reference line. • Demonstrate how to identify the correct color, shade of tiles, different identical shades and color coding. • Show how to clean and wet base surfaces with water jets (except wood/vinyl) for better adhesion of tiles. • Demonstrate the process of preparing various surfaces as per requirement for different types of tiles such as masonry plastered surface, reinforced concrete surface, concrete block timber, and vinyl surface. • Demonstrate the process of carrying out proper marking before cutting tiles to required shape and size. • Show how to cut tiles as per the design /pattern specifications using appropriate tools to fit around obstacles & into odd spaces & corners. • Demonstrate the process of preparing a bedding of appropriate thickness to act as base for fixing tiles.

CON/N0208: Process of Installing Mechanical Couplers for Reinforcement Works , v 4.0
Mandatory Duration: 30:00 Hours
Location: On-Site
Terminal Outcomes • Demonstrate how to check that reinforcement bars are threaded properly using threading machine and are covered with plastic thread protector. • Demonstrate the standard procedure followed for fixing of mechanical couplers. • Demonstrate how to use appropriate personal protective equipment and follow organizational safety guidelines while cutting and bending of reinforcement bars. • Show how to position the cast and continuation bar and fix them appropriately to the coupler. • Show how to tighten the connections by hand or by using appropriate torque wrench. Demonstrate the use of different types of couplers such as threaded coupler, taper threaded coupler, grout filled coupler, combo grout filled/threaded filled coupler etc. appropriately.

Annexure

Trainer Requirements

Trainer Prerequisites					
Minimum Educational Qualification	**Specialisation**	**Relevant Industry Experience**		**Preferable Training Experience**	
		Years	***Specialization***	***Years***	***Specialization***
B.E./B. Tech	Civil / Mechanical Engineering	2	Site Execution (Civil Work)	1	Bar Bending and Steel Fixing
OR					
Diploma	Civil / Mechanical Engineering	3	Site Execution (Civil Work)	1	Bar Bending and Steel Fixing
OR					
ITI	Relevant Trade	6	Site Execution (Civil Work)	1	Bar Bending and Steel Fixing
OR					
Graduation	in any Stream	6	Site Execution (Civil Work)	1	Bar Bending and Steel Fixing
OR					
Ex-Army Graduate	in any Stream	6	Site Execution (Civil Work)	1	Bar Bending and Steel Fixing

Trainer Certification	
Domain Certification	**Platform Certification**
Recommended that the Trainer is certified for the Job Role: "Reinforcement Fitter", mapped to the Qualification Pack: "CON/Q0204, v4.0". The minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and skills)", mapped to the Qualification Pack: "MEP/Q2601, v3.0". The minimum accepted score is 80%.

Assessor Requirements

Assessor Prerequisites			
Minimum Educational Qualification	**Specialisation**	**Relevant Industry Experience**	
		Years	***Specialization***
B.E. / B.Tech	Civil / Mechanical Engineering	2	Site Execution (Civil Work)
OR			
Diploma	Civil Engineering	5	Site Execution (Civil Work)
OR			
ITI	Relevant Trade	7	Site Execution (Civil Work)

Assessor Certification	
Domain Certification	**Platform Certification**
Recommended that the Assessor is certified for the Job Role: "Reinforcement Fitter", mapped to the Qualification Pack: "CON/Q0204, v4.0". The minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and skills)", mapped to the Qualification Pack: "MEP/Q2701, v3.0". The minimum accepted score is 80%.

Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

1. **Assessment system Overview:**

   Assessment is done through CSDCI affiliated Assessment Agencies. Assessors are trained & certified by CSDCI after Training Of Assessor (TOA) 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 **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
   - Where appropriate, any supplementary criteria used to make a judgment on the level of performance.

2. **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 mal-practicing.
   - 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:
     - Knowledge assessment (theory/viva assessment)
     - Skill assessment (practical/hands-on skill assessment)

3. **Mode of assessment:**
    - Demonstration/Practical for Performance /Skill Assessment
    - Synoptic multiple-choice question test
    - Viva for Knowledge Assessment
4. **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.
5. **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

6. **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 criteria ensure 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.

7. **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.
8. **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 SIDH by Assessment Agency.
9. **On the Job:**
    - On job training (OJT), candidates undergo training and leaning at actual workplace for a fixed period of time and a certain weightage of assessment is allocated out of total skill weightage of Qualification Pack for undergoing OJT as stipulated by CSDCI. This OJT score and assessors' end point score are combined to arrive at final Marking/grading of trainees' skill test. The OJT score is determined by Supervisor of company under which candidates undergo on job training.

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 it 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
MSDE	Ministry of Skill Development and Entrepreneurship
NCVET	National Council for Vocational Education and Training
NSDC	National Skill Development Corporation
SIDH	Skill India Digital Hub
CSDCI	Constriction Skill Development Council of India
AB	Awarding Body
SSC	Sector Skill Council
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
SANKALP	Skill Acquisition and Knowledge Awareness for Livelihood Promotion
STRIVE	Skills Strengthening for Industrial Value Enhancement
JSS	Jan Shikshan Sansthan
STT	Short Term Training
RPL	Recognition of Prior Learning
NAPS	National Apprenticeship Promotion Scheme
AA	Assessment Agency
TP	Training Provider / Training Partner
TC	Training Centre
ITI	Industrial Training Institute
NSQC	National Skill Qualification Committee
NSQF	National Skills Qualification Framework
Q-File	Qualification File
QP	Qualification Pack
MC	Model Curriculum
NOS	National Occupational Standards
PC	Performance Criteria
KU	Knowledge and Understanding
GS	Generic Skills
MCQ	Multiple Choice Question
EHS	Environment Health and Safety
PPE	Personal Protective Equipment
QA/QC	Quality Assurance / Quality Control
BBW	Bar Bending Work
SFW	Steel Fixing Work
BBS	Bar Bending Schedule
RCC	Reinforced Cement Concrete
TMT	Thermo-Mechanically Treated (Steel Bars)
MSB	Mild Steel Bars
RRB	Ribbed Reinforcement Bars
RCW	Reinforcement Construction Work
SBF	Steel Bending and Fixing
RBW	Rebar Bending Work