



## QUALIFICATION FILE

### Bar Bender and Steel Fixer

Short Term Training (STT)  Long Term Training (LTT)  Apprenticeship

Upskilling  Dual/Flexi Qualification  For ToT  For ToA

General  Multi-skill (MS)  Cross Sectoral (CS)  Future Skills  OEM

NCrF/NSQF Level: 3.5

#### Submitted By:

**Construction Skill Development Council of India**

**Address:** Tower 4B, DLF Corporate Park, 201&, 202 4B, Mehrauli-Gurgaon Rd, DLF Phase 3, Gurugram, Haryana 122002

#### Submitting Body Contact Details:

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Section 1: Basic Details

1.	<b>Qualification Name</b>	Bar Bender and Steel Fixer		
2.	<b>Sector/s</b>	Construction		
3.	<b>Type of Qualification:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	<b>NQR Code &amp; version of existing/previous qualification:</b> (2022/CON/CSDCI/05605, v3.0)	<b>Qualification Name of existing/previous version:</b> Bar Bender and Steel Fixer	
4.	<b>a. OEM Name</b> <b>b. Qualification Name</b> (Wherever applicable)	NA		
5.	<b>National Qualification Register (NQR) Code &amp;Version</b> (Will be issued after NSQC approval)	2022/CON/CSDCI/05605 & v4.0	6. <b>NCrF/NSQF Level:</b> 3.5	
7.	<b>Award (Certificate/Diploma/Advanced Diploma/ Any Other</b> (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate		
8.	<b>Brief Description of the Qualification</b>	A Bar Bender and Steel Fixer is responsible for marking, cutting, bending, fabricating, placing and fixing reinforcement bars at the desired location using appropriate hand or power tools, within the specified time and defined tolerance limits, following safe work practices.		
9.	<b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>	<b>a. Entry Qualification &amp; Relevant Experience:</b>		
		<b>S. No.</b>	<b>Academic/Skill Qualification (with Specialization - if applicable)</b>	<b>Required Experience (with Specialization - if applicable)</b>
		1.	11th grade pass	
		2.	Completed 1st year of 3-year diploma after 10th	

		3.	10th grade pass and pursuing continuous schooling			
		4.	8th grade pass	3-year relevant experience		
		5.	Previous relevant Qualification of NSQF Level 2.5	3-year relevant experience		
		6.	Previous relevant qualification of NSQF Level 3	1.5-year relevant experience		
		<b>b. Age: 18 years</b>				
<b>10. Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</b>		13	<b>11. Common Cost Norm Category (I/II/III) (wherever applicable): I</b>			
<b>12. Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</b>	NA					
<b>13. Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</b>	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended					
	<b>Training Delivery Modes</b>	<b>Theory (Hours)</b>	<b>Practical (Hours)</b>	<b>OJT Mandatory (Hours)</b>	<b>OJT Recommended (Hours)</b>	<b>Total (Hours)</b>
	<b>Classroom (offline)</b>	120	210	60		390
	<b>Online</b>					
	<i>(Refer Blended Learning Annexure for details)</i>					
<b>14. Aligned to NCO/ISCO Code/s (if no code is available mention the same)</b>	NCO-2015/7214.9900					
<b>15. Progression path after attaining the qualification (Please show Professional and Academic progression)</b>	Vertical Progression: Foreman Reinforcement – Level 4.5					

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16. Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi	
17. Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:	
18. Is the Job Role Amenable to Persons with Disability	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes", specify applicable type of Disability:	
19. How Participation of Women will be Encouraged	To encourage women to participate in bar bending and fixing job roles, it is important to provide education, mentorship, and networking opportunities, as well as training and development programs. Flexible work arrangements and promoting successful women in bar bending and fixing can also inspire and encourage women to pursue careers in this field. Creating a culture of inclusion and diversity can help women feel welcome and valued in bar bending and fixing job roles, through policies and practices that support work-life balance, equal pay and promotion opportunities, and a safe and respectful workplace.	
20. Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No CON/N9001	
21. Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
22. Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Abhisek Prasad Mishra Email: <a href="mailto:abhisek@csdcindia.org">abhisek@csdcindia.org</a> Contact No.: 0124-4513915-18 Ext-23 Website: <a href="http://www.csdcindia.org">www.csdcindia.org</a>	
23. Final Approval Date by NSQC: 31/03/2022	24. Validity Duration: 3 Years	25. Next Review Date: 31/03/2025

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## Section 2: Module Summary

### NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer to the curriculum document.

**Th.**-Theory **Pr.**-Practical **OJT**-On the Job Training **Man.**-Mandatory **Rec.**-Recommended **Proj.**-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non- Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					Weightage (%) (if applicable)
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	
1.	Read and understand routine drawings / sketches and Bar Bending Schedule (BBS)	CON/N0204 & v 4.0	Core	3.5	3	30	60		-	90	30	70	-	-	100	20
2.	Use hand and power tools for cutting and bending of reinforcement bars	CON/N0205 & v 4.0	Core	3.5	3	30	30	30	-	90	30	70	-	-	100	20
3.	Prepare, fabricate, place and fix reinforcement bars for RCC structures	CON/N0206 & v 4.0	Core	3.5	3	15	45	30	-	90	30	70	-	-	100	20
4.	Work effectively in a team to deliver desired results at the workplace	CON/N8001 & v 12.0	Non- Core	4.0	1	05	25	-	-	30	30	70	-	-	100	10

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S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non- Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					Weightage (%) (if applicable)
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	
5.	Plan and organize work to meet expected outcomes	CON/N8002 & v 9.0	Non- Core	4.0	1	05	25	-	-	30	30	70	-	0	100	10
6.	Work according to personal health, safety and environment protocols at construction site	CON/N9001 & v 10.0	Non- Core	4.0	1	05	25	-	-	30	30	70	-	-	100	10
7.	Employability Skills	DGT/VSQ/N0101 & v 1.0	Non-Core	2.0	1	30	-	-	-	30	20	30	-	-	50	10
<b>Duration (in Hours) / Total Marks</b>					<b>13</b>	<b>120</b>	<b>210</b>	<b>60</b>		<b>390</b>	<b>200</b>	<b>450</b>	<b>-</b>	<b>-</b>	<b>650</b>	<b>100</b>

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

**Minimum Pass Percentage – Aggregate at qualification level: 70%** (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

**Minimum Pass Percentage – NOS/Module-wise: \_\_\_%** (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

**Section 3: Training Related**

1.	<b>Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines)	B.E./B. Tech in Civil Engineering/Mechanical Engineering /Electrical Engineering (2-years of Relevant Experience) OR Diploma in Civil Engineering/Mechanical Engineering /Electrical Engineering (3-years of Relevant Experience) OR ITI in Relevant Trade (6-years of Relevant Experience) OR General BA/BSc. /EX-Army/12 <sup>th</sup> in Relevant Trade (6-years of Relevant Experience)
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines)	B.E./B. Tech in Civil Engineering/Mechanical Engineering (8-years of Relevant Experience) OR Diploma in Civil Engineering/ Mechanical Engineering/ Manufacturing/ Mathematics/ Physics degree (10-years of Relevant Experience) OR ITI in Relevant Trade (13-years of Relevant Experience)

3.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	<b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>	

**Section 4: Assessment Related**

1.	<b>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	B.E./B. Tech in Civil Engineering/Mechanical Engineering /Electrical Engineering (2-years of Relevant Experience) OR Diploma in Civil Engineering/Mechanical Engineering /Electrical Engineering (5-years of Relevant Experience) OR ITI in Relevant Trade (7-years of Relevant Experience)
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	B.E./B. Tech in Civil Engineering/Mechanical Engineering /Electrical Engineering (2-years of Relevant Experience) OR Diploma in Civil Engineering/Mechanical Engineering /Electrical Engineering (5-years of Relevant Experience) OR ITI in Relevant Trade (7-years of Relevant Experience)
3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	B.E./B. Tech in Civil Engineering/Mechanical Engineering (8-years of Relevant Experience) OR

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		Diploma in Civil Engineering/ Mechanical Engineering/ Manufacturing/ Mathematics/ Physics degree (10-years of Relevant Experience) OR ITI in Relevant Trade (13-years of Relevant Experience) OR General BA/BSc. /EX-Army/12 <sup>th</sup> in Relevant Trade (13-years of Relevant Experience)
4.	<b>Assessment Mode</b> ( <i>Specify the assessment mode</i> )	Online and Offline
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ( <i>details to be provided in Annexure-if it is different for Assessment</i> )

#### Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	<b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b> Yes
2.	<b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> No
3.	<b>Government /Industry initiatives/ requirement (Yes/No):</b> No
4.	<b>Number of Industry validation provided:</b> 5
5.	<b>Estimated nos. of persons to be trained and employed:</b> Approx. 5000 to 5500 employees over a period of 5 years
6.	<b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> <i>Approved</i> If "No", why:

Section 6: Annexure & Supporting Documents Checklist

Specify Annexure Name / Supporting document file name

1.	<b>Annexure:</b> NCrf/NSQF level justification based on NCrf level/NSQF descriptors <i>(Mandatory)</i>	Yes
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	Yes
3.	<b>Annexure:</b> Detailed Assessment Criteria <i>(Mandatory)</i>	Yes
4.	<b>Annexure:</b> Assessment Strategy <i>(Mandatory)</i>	Yes
5.	<b>Annexure:</b> Blended Learning <i>(Mandatory, in case selected Mode of delivery is “Blended Learning”)</i>	No
6.	<b>Annexure:</b> Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	Yes
7.	<b>Annexure:</b> Acronym and Glossary <i>(Optional)</i>	Yes
8.	<b>Supporting Document:</b> Model Curriculum <i>(Mandatory – Public view)</i>	Yes
9.	<b>Supporting Document:</b> Career Progression <i>(Mandatory - Public view)</i>	Yes
10.	<b>Supporting Document:</b> Occupational Map <i>(Mandatory)</i>	Yes, Attached.
11.	<b>Supporting Document:</b> Assessment SOP <i>(Mandatory)</i>	Yes
12.	<b>Any other document you wish to submit:</b>	No

Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
<b>Professional Theoretical Knowledge/Process</b>	<ul style="list-style-type: none"> <li>● Process of reading and understanding routine drawings / sketches and Bar Bending Schedule (BBS).</li> <li>● Process of preparing, fabricating, placing and fixing reinforcement bars for RCC structures.</li> <li>● Process of working effectively in a team to deliver desired results at the workplace.</li> <li>● Process of planning and organizing work to meet expected outcomes</li> <li>● Process of working according to personal health, safety and environment protocols at the construction site.</li> </ul>	<p>As detailed, the entire process followed by a Bar Bender and Steel Fixer is to read and understand routine drawings / sketches and Bar Bending Schedule (BBS), carry out powder coating, prepare, fabricate, place and fix reinforcement bars for RCC structures .</p> <p>As the work is routine and is repeated multiple times, the work becomes predictable.</p> <p>As the Bar Bender and Steel Fixers are required to perform the task as per the required codes and standards following the method statement available for the task, they have a clear work situation.</p>	<p>3.5</p>
<b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>	<ul style="list-style-type: none"> <li>● Know how to read basic drawings/ sketches for bar bending and fixing works.</li> <li>● Know simple arithmetic calculations.</li> <li>● Know how to read and understand BBS</li> <li>● Know the different types of cover block, steel rods, binding wire and reinforcement bars.</li> <li>● Understand standard practices followed for reinforcement work.</li> <li>● Know the types of hand tools used for cutting and bending of reinforcement bars</li> </ul>	<p>The knowledge required for a Bar Bender and Steel Fixer is factual, as it is specific and limited to the knowledge of reading basic drawings/ sketches for bar bending and fixing works; simple arithmetic calculations; bar bending schedule; types of cover block, steel rods, binding wire and reinforcement bars; standard practices followed for reinforcement work; types of hand tools used for cutting and bending of reinforcement bars; types of power tools and accessories used for cutting, bending and threading of reinforcement bars; standard method of storing cut reinforcement bars and scrap materials, understand the standard practices followed for the fabrication of reinforcement cage, sequence for tying of</p>	<p>3.5</p>

	<ul style="list-style-type: none"> <li>• Know the different types of power tools and accessories used for cutting, bending and threading of reinforcement bars</li> <li>• Know the standard method of storing cut reinforcement bars and scrap materials</li> <li>• Understand the standard practices followed for the fabrication of reinforcement cage</li> <li>• Know the sequence for tying of reinforcement bars for in-situ and prefabrication works</li> <li>• Know the standard tolerance levels in reinforcement work</li> </ul>	<p>reinforcement bars for in-situ and prefabrication works; and the standard tolerance levels in reinforcement work.</p> <p>Therefore, their knowledge is applicable to their field of work only.</p>	
<p><b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b></p>	<ul style="list-style-type: none"> <li>• Read and interpret correct detail from drawings, sketches and bar bending schedule</li> <li>• Select hand /power tools for cutting reinforcement bars</li> <li>• Select cutting blade for cutting machine</li> <li>• Select hand/power tools for bending reinforcement bars</li> <li>• Select bar bending accessories</li> <li>• Select reinforcement bars for placement as per the drawing</li> <li>• Calculate the numbers of couplers for connecting of reinforcement bars</li> </ul>	<p>As indicated the skill set is required to read and interpret correct detail from drawings, sketches and bar bending schedule; select hand /power tools for cutting reinforcement bars, cutting blade for cutting machine, hand/power tools for bending reinforcement bars, bar bending accessories, reinforcement bars for placement as per the drawing and calculate the numbers of couplers for connecting of reinforcement bars.</p>	<p>3.5</p>
<p><b>Broad Learning Outcomes/Core Skill</b></p>	<ul style="list-style-type: none"> <li>• Carry out reading and understanding routine drawings/ sketches and Bar Bending Schedule (BBS).</li> <li>• Use hand &amp; power tools for cutting and bending reinforcement bars.</li> </ul>	<p>The job holder is expected to carry out reading and understanding routine drawings/ sketches and Bar Bending Schedule (BBS), use hand &amp; power tools for cutting and bending reinforcement bars, carry out the process to prepare, fabricate, place, and fix</p>	<p>3.5</p>

	<ul style="list-style-type: none"><li>● Carry out the process to prepare, fabricate, place, and fix reinforcement bars for RCC structures as per Bar Bending Schedule (BBS).</li></ul>	reinforcement bars for RCC structures as per Bar Bending Schedule (BBS).	
<b>Responsibility</b>	<p>The individual in this job role will be responsible for the below-mentioned activities:</p> <ul style="list-style-type: none"><li>● Read and understand routine drawings / sketches</li><li>● Read and understand Bar Bending Schedule (BBS)</li><li>● Use hand and power tools for cutting of reinforcement bars</li><li>● Use hand and power tools for bending of reinforcement bars</li><li>● Fabricate, place and fix reinforcement bars for R.C.C structures as per Bar Bending Schedule (BBS) and drawing</li><li>● Interact and communicate in an effective manner</li><li>● Support co-workers to execute the project requirements</li><li>● Practice inclusion</li><li>● Plan and prepare for work</li><li>● Organise required resources as per work plan</li><li>● Complete work as per the plan</li><li>● Follow safety norms as defined by the organization</li><li>● Adopt healthy &amp; safe work practices</li><li>● Implement good housekeeping and environment protection process and activities</li></ul>	A Bar bender and Steel Fixer is responsible for marking, cutting, bending, fabricating, placing and fixing reinforcement bars at the desired location using appropriate hand or power tools, within the specified time and defined tolerance limits, following safe work practices.	3.5

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	<ul style="list-style-type: none"><li>• Follow infection control guidelines as per applicability</li></ul>		
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Annexure 2: Tools and Equipment (Lab Set-Up)

**List of Tools and Equipment**

**Batch Size: 30 Candidates**

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Chisel	Number	10
2.	Hammer	Number	10
3.	Bar Tying Hook	Number	10
4.	Bending Lever	Number	6
5.	Guage Measure	Number	3
6.	Podger Spanner	Number	6
7.	Hack Saw Blade And Frame	Number	10
8.	Steel Scale	Number	10
9.	Try Scale	Number	10
10.	Spirit Level	Number	6
11.	Plumb Bob	Number	6

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12.	Measurement Tape	Number	10
13.	Cutting Machine	Number	1
14.	Bending Machine	Number	1
15.	Threading Machine	Number	1
16.	M.S, TOR Steel	Number	10
17.	TMT Steel Binding Wires	kgs	2
18.	Cover Blocks	Number	30
19.	Wooden Planks	Number	30
20.	Reinforcement Bar Tying Machine	Number	1
21.	Lifting Appliance (Sling, Shackle, Belts)	Number	1
22.	Steel Cutting Blade	Number	20
23.	Mechanical Coupler	Number	10
24.	Safety Helmet	Number	30
25.	Safety Goggles	Number	30

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26.	Safety Shoes	pair	30
27.	Safety Belt	Number	10
28.	Cotton Gloves	Number	30
29.	Ear Plugs / Ear Protection	Number	30
30.	Reflective Jackets,	Number	30
31.	Dust Mask / Nose Mask	Number	30
32.	Fire Prevention Kit	set	3
33.	Jump Suit	Number	30
34.	Leather Hand Gloves	Number	30
35.	Wire Brush	Number	15
36.	Hand And Leg Guard Leather	Number	15
37.	Fire Extinguisher	Number	3
38.	Sand Buckets	Number	5
39.	Flashback Arrestors	Number	10

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40.	Welding Helmet	Number	30
41.	Welding Glass	Number	30
42.	First Aid Box	Number	2
43.	Safety Tags	Number	5
44.	Safety Notice Board / Safety Message Board	Number	5
45.	Drawings Of Various Types Of Structures And Structural Elements	Number	10
46.	Bar Bending Schedule Sample	Number	5
47.	Model Room	Number	1

**Classroom Aids**

The aids required to conduct sessions in the classroom are:

1. Training Kit (Trainer Guide, Presentations)
2. Whiteboard/ Blackboard
3. Marker
4. Projector
5. Working Model

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Annexure 3: Industry Validations Summary

Provide the summary information of all the industry validations in the table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	Know How Schools LLP	Dipesh Bafna	Partner	C 601, Royal Casa, Ravet, Pune, Maharashtra, 412101 www.knowhowschools.com	9405266123	<a href="mailto:learn@knowhowschools.com">learn@knowhowschools.com</a>	
2	L& T Skill Trainers Academy	DK Sharma	Principal - CSTI	Modh Campus , Near Custom House, Versova Modh Jetty , Modh, Mumbai - 400061, India	7660986699	<a href="mailto:deepaks@Intecc.com">deepaks@Intecc.com</a>	
3	Sunbright Manpower Solutions Pvt. Ltd	Arun Kumar	Supervisor	Shop No. 3144, Main Road, Narasapura (V), Kolar Taluk & Dist. PIN- 563133	7338463588	<a href="mailto:bangalore@sunbrightgroup.com">bangalore@sunbrightgroup.com</a>	
4	AK Consulting	Mohit Sharma	Manager	Tower - B, DTJ - 209, 2nd Floor DLF, District Centre, Jasola, New Delhi, 110025	8800091932	<a href="mailto:mohit@advisoryfeedback.com">mohit@advisoryfeedback.com</a>	
5	Artificial Intelligence Technologies Ltd.	Bal Krishna Kulkarni	President	401, Imperial Heights, Akshar Chowk, O.P. Road, Vadodara, Gujarat	9819657656	<a href="mailto:balkrishna.kulkarni@dongrepmc.com">balkrishna.kulkarni@dongrepmc.com</a>	
6	Asirbadh Projects and Infrastructure Limited	Mohit Sharma	Manager	Tower - B, DTJ - 209, 2nd Floor DLF, District Centre, Jasola, New Delhi, 110025	8800091932	<a href="mailto:mohit@advisoryfeedback.com">mohit@advisoryfeedback.com</a>	
7	Saifee Burhani Upliftment Trust	Dipesh Bafna	Partner	C 601, Royal Casa, Ravet, Pune, Maharashtra, 412101 www.knowhowschools.com	9405266123	<a href="mailto:learn@knowhowschools.com">learn@knowhowschools.com</a>	

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8	Donge Project Management Consultants Pvt. Ltd	DK Sharma	Principal - CSTI	Modh Campus , Near Custom House, Versova Modh Jetty , Modh, Mumbai - 400061, India	7660986699	<a href="mailto:deepaks@Intecc.com">deepaks@Intecc.com</a>	
9	Ephicity Lifescience Analytics	Arun Kumar	Supervisor	Shop No. 3144, Main Road, Narasapura (V), Kolar Taluk & Dist. PIN- 563133	7338463588	<a href="mailto:bangalore@sunbrightgroup.com">bangalore@sunbrightgroup.com</a>	
10	Freelance Architect (Individual Consultant)	Bal Krishna Kulkarni	President	401, Imperial Heights, Akshar Chowk, O.P. Road, Vadodara, Gujarat	9819657656	<a href="mailto:balkrishna.kulkarni@dongrepmc.com">balkrishna.kulkarni@dongrepmc.com</a>	
11	Institute of Management and Technology (IMT)	Dipesh Bafna	Partner	C 601, Royal Casa, Ravet, Pune, Maharashtra, 412101 <a href="http://www.knowhowschools.com">www.knowhowschools.com</a>	9405266123	<a href="mailto:learn@knowhowschools.com">learn@knowhowschools.com</a>	
12	L.K.Engicons	DK Sharma	Principal - CSTI	Modh Campus , Near Custom House, Versova Modh Jetty , Modh, Mumbai - 400061, India	7660986699	<a href="mailto:deepaks@Intecc.com">deepaks@Intecc.com</a>	
13	Manpower Group Services India	Arun Kumar	Supervisor	Shop No. 3144, Main Road, Narasapura (V), Kolar Taluk & Dist. PIN- 563133	7338463588	<a href="mailto:bangalore@sunbrightgroup.com">bangalore@sunbrightgroup.com</a>	
14	Pipal Tree Ventures Pvt. Ltd.	Nirman Jain	Technical Lead	6th Cross Rd, 1st Stage, Kadugondanahalli, Bengaluru, Karnataka, 560045 <a href="http://akconsultinglobal.com">akconsultinglobal.com</a>	7042447336	<a href="mailto:nirmanjain777@gmail.com">nirmanjain777@gmail.com</a>	
15	Samerka Consultants Pvt Ltd	Rohit Kumar Sharma	Sr. Developer	A-21 Kailash Colony, New Delhi – 110048 <a href="https://www.aituniversal.com/">https://www.aituniversal.com/</a>	9927564461	<a href="mailto:rohit.sharma@aituniversal.com">rohit.sharma@aituniversal.com</a>	

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#### Annexure 4: Training & Employment Details

##### Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2024	1000	750	150	90		
2025	1000	750	200	140		
2026	1000	750	300	220		

*Data to be provided year-wise for next 3 years*

##### Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualificati on Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
v2.0	2023-24	90	15	14									
v2.0	2022-23	465	290	267									
v2.0	2021-22	3760	3444	3056									
v2.0	2020-21	3001	2530	2029									

*Applicable for revised qualifications only, data to be provided year-wise for past 3 years.*

##### List Schemes in which the previous version of Qualification was implemented:

1. AICTE
2. APSSDC
3. ASDM
4. CPWD
5. CSR
6. DDUGKY
7. Directorate of Skill Development
8. MoRTH

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9. NULM
10. PMKVY 2.0
11. PMKVY 3.0
12. PMKVY 4.0
13. UPSDM
14. YuvaKeralam

**Content availability for previous versions of qualifications:**

Participant Handbook  Facilitator Guide  Digital Content  Qualification Handbook  Any Other:

**Languages in which Content is available:** English

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Annexure 5: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

Assessment Criteria

NOS Name	CON/N0204: Read and understand routine drawings / sketches and Bar Bending Schedule (BBS)			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Read and understand routine drawings / sketches</i>	15	35	-	-
PC1. interpret basic detail like type, dimension, angle/ position of bend and layout plan from the sketches / drawings				
PC2. interpret fixing/insertion sequence from the drawings				
PC3. derive the orientation and position of reinforcement bars from the drawing				
PC4. interpret drawing to calculate number of chairs and spacer bars to be used				
PC5. find out the size and type of cover block to be used from the drawing				
PC6. interpret basic sketches to calculate the required cutting length				
PC7. interpret drawing/sketches for calculating scope of work and to plan for cutting, bending and fabricating of reinforcement bars				
<i>Read and understand Bar Bending Schedule</i>	15	35	-	-

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PC8. read and interpret correct detail from bar bending schedule including type, diameter, shape, cutting length and number of reinforcement bars	-	-	-	-
PC9. interpret BBS to calculate the cutting length of reinforcement bars	-	-	-	-
PC10. interpret the terms used in bar bending schedule	-	-	-	-
PC11. interpret the BBS to estimate quantity of work.	-	-	-	-
PC12. interpret details from BBS to efficiently plan for cutting reinforcement bars with minimum wastage	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

NOS Name	CON/N0205: Use hand and power tools for cutting and bending of reinforcement bars			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Use hand and power tools for cutting of reinforcement bars</i>	<b>15</b>	<b>35</b>	-	-
PC1. select hand /power tools for cutting reinforcement bars as per requirement / instruction	-	-	-	-
PC2. select cutting blade for cutting machine used for reinforcement bars as per requirement / instruction	-	-	-	-
PC3. use measurement and marking tool to mark reinforcement bars for cutting as per specified length mentioned in Bar Bending Schedule (BBS)	-	-	-	-
PC4. place reinforcement bars properly for cutting as per requirement and instruction	-	-	-	-

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PC5. ensure the number of reinforcement bars to be cut at any given time is as per the manufacturer's guidelines	-	-	-	-
PC6. maintain correct body posture while cutting reinforcement bars manually or mechanically	-	-	-	-
PC7. tag and stack reinforcement bars after cutting as per standard practices	-	-	-	-
<i>Use hand and power tools for bending of reinforcement bars</i>	<b>15</b>	<b>35</b>	-	-
PC8. select hand/power tools for bending reinforcement bars as per requirement	-	-	-	-
PC9. select bar bending accessories as per the diameter of reinforcement bars	-	-	-	-
PC10. mark, place and fix the reinforcement bars as per the position of bending	-	-	-	-
PC11. maintain correct body posture while bending rebars manually or mechanically	-	-	-	-
PC12. bend reinforcement bars as per the shape and dimensions given in the Bar Bending Schedule (BBS)	-	-	-	-
PC13. check to ensure that the length and shape of reinforcement bars are as per the Bar Bending Schedule (BBS) within the tolerance limit	-	-	-	-
PC14. tag and stack reinforcement bars after bending as per standard practices	-	-	-	-
PC15. use appropriate personal protective equipment and follow organizational safety guidelines while cutting and bending of reinforcement bars	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

NOS Name	CON/N0206: Prepare, fabricate, place and fix reinforcement bars for RCC structures			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Fabricate, place and fix reinforcement bars for R.C.C structures as per Bar Bending Schedule(BBS) and drawing</i>	30	70	-	-
PC1. interpret relevant specification given in the sketches/drawing/BBS for fabrication and fixing of reinforcement bars	-	-	-	-
PC2. determine correct method of insertion/ fixing of reinforcement bars as per the types of structure	-	-	-	-
PC3. select reinforcement bars for placement as per the drawing	-	-	-	-
PC4. mark, place, and fix the reinforcement bars as per sketch/drawing	-	-	-	-
PC5. maintain uniform spacing between the bars, stirrups and link rod as per the drawing	-	-	-	-
PC6. calculate the numbers of couplers for connecting of reinforcement bars as per requirement	-	-	-	-
PC7. stagger the lap avoiding more than 50% splicing while fabricating the reinforcement cage	-	-	-	-
PC8. place and fix mechanical coupler as per drawing/BBS	-	-	-	-
PC9. tie reinforcement bars with approved binding wires as per drawing	-	-	-	-

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PC10. use appropriate personal protective equipment and follow organizational safety guidelines while fabricating and fixing reinforcement cage	-	-	-	-
PC11. ensure that the sequence of tying is as per method statement	-	-	-	-
PC12. fabricate the reinforcement cage and fix it at its position as per the drawing	-	-	-	-
PC13. place and fix chairs at specified spacing to maintain correct thickness	-	-	-	-
PC14. ensure cover blocks and spacers are placed to maintain appropriate covers and spacing	-	-	-	-
PC15. check for the accuracy of location, position and tying of reinforcement bars	-	-	-	-
PC16. provide suitable stiffeners for lifting in case of prefabricated cage	-	-	-	-
PC17. check the reinforcement work and verify it as per the drawing	-	-	-	-
PC18. report the executed work to the superior for quality checks	-	-	-	-
PC19. take corrective action in case of any error/deviation in work as per instructions	-	-	-	-
PC20. ensure optimum utilization and minimum wastage of material during the fabrication of reinforcement cage	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	<b>-</b>	<b>-</b>

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NOS Name	CON/N8001: Work effectively in a team to deliver desired results at the workplace			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interact and communicate in an effective manner</i>	18	42	-	-
PC1. pass on work related information/ requirement clearly to the team members	-	-	-	-
PC2. inform co-workers and superiors about any kind of deviations from work	-	-	-	-
PC3. report any unresolved problem to the supervisor immediately	-	-	-	-
PC4. obtain instructions from superiors and respond on the same	-	-	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	-	-	-	-
PC6. seek clarification and advice as per the requirement	-	-	-	-
<i>Support co-workers to execute the project requirements</i>	6	14	-	-
PC7. hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams	-	-	-	-
PC8. work together with co-workers in a synchronized manner	-	-	-	-
<i>Practice inclusion</i>	6	14	-	-
PC9. maintain cultural inclusivity at workplace	-	-	-	-
PC10. maintain disability friendly work practices	-	-	-	-
PC11. follow gender neutral practices at workplace	-	-	-	-

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PC12. address discriminatory and offensive behaviour in a professional manner as per organizational policy	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

NOS Name	CON/N8002: Plan and organize work to meet expected outcomes			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and prepare for work</i>	<b>9</b>	<b>21</b>	-	-
PC1. identify the targets and timelines set by superiors	-	-	-	-
PC2. determine the work requirements corresponding to task(drawings/schedules/instructions/methodology), safety, tools and equipment prior to commencement of task	-	-	-	-
PC3. plan the work by analyzing the required outcomes, work procedures, allotted time, resource availability and known priorities	-	-	-	-
PC4. prepare the work areas in coordination with team members	-	-	-	-
PC5. plan for waste collection and disposal prior to and after completion of work	-	-	-	-
<i>Organise required resources as per work plan</i>	<b>6</b>	<b>14</b>	-	-

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PC6. arrange the required manpower prior to commencement of work	-	-	-	-
PC7. organize the required materials, tools and tackles required for the task	-	-	-	-
<i>Complete work as per the plan</i>	<b>15</b>	<b>35</b>	-	-
PC8. engage allocated manpower in an appropriate manner	-	-	-	-
PC9. employ correct tools, tackles and equipment for the desired work	-	-	-	-
PC10. provide guidance to the subordinates to obtain desired outcome	-	-	-	-
PC11. use resources in an optimum manner to avoid any unnecessary wastage	-	-	-	-
PC12. use tools, tackles and equipment carefully to avoid damage	-	-	-	-
PC13. ensure the work processes adopted are in line with the specified standards and instructions	-	-	-	-
PC14. complete the work with the allocated resources within specified time	-	-	-	-
PC15. clean and organise the workplace after completion of task	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

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NOS Name	CON/N9001: Work according to personal health, safety and environment protocols at construction site			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow safety norms as defined by the organization</i>	6	14	-	-
PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	-	-	-	-
PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	-	-	-	-
PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable	-	-	-	-
PC4. follow all the protocols and safety techniques conveyed during safety awareness programs like Tool Box Talks, safety demonstrations and mock drills conducted at the site	-	-	-	-
PC5. select and operate different types of fire extinguishers corresponding to various types of fires as per EHS guideline	-	-	-	-
PC6. identify near miss, unsafe condition and unsafe act	-	-	-	-
<i>Adopt healthy &amp; safe work practices</i>	15	35	-	-
PC7. use 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)	-	-	-	-
PC8. handle all required tools, tackles, materials and equipment safely	-	-	-	-

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PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	-	-	-	-
PC10. check and install all safety equipment as per standard guidelines	-	-	-	-
PC11. follow safety protocols and practices as laid down by site EHS department	-	-	-	-
PC12. obtain "height pass" clearance for working at heights	-	-	-	-
<i>Implement good housekeeping practices</i>	<b>6</b>	<b>14</b>	-	-
PC13. collect, segregate and deposit construction waste into appropriate containers based on their toxicity or hazardous nature	-	-	-	-
PC14. apply ergonomic principles wherever required	-	-	-	-
<i>Follow infection control guidelines as per applicability</i>	<b>3</b>	<b>7</b>	-	-
PC15. follow recommended personal hygiene, workplace hygiene and sanitization practices	-	-	-	-
PC16. clean and disinfect all materials, tools and supplies before and after use	-	-	-	-
PC17. report immediately to concerned authorities regarding signs and symptoms of illness of self and others	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

NOS Name	DGT/VSQ/N0101: Employability Skills (30 Hours)			
Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-

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PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values – Citizenship</i>	<b>1</b>	<b>1</b>	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	<b>1</b>	<b>1</b>	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>3</b>	<b>4</b>	-	-
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-

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PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	<b>4</b>	<b>6</b>	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	<b>3</b>	<b>5</b>	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	<b>2</b>	<b>2</b>	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>1</b>	<b>3</b>	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-

## Annexure 6: Assessment Strategy

### 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:

- Batches assigned to the assessment agencies for conducting the assessment on SIP
- The batch allocation Matrix prepared for each month based on previous months' performance of AAs, which determines the quantum of Assessment which can be allocated to each AA for a month
- Post allocation of assessment, Assessment agencies send the assessment confirmation to SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process.

#### 2. Testing Environment:

- A combination of Theory and practical/demonstration test is deployed to assess knowledge and Skill respectively of Learners.
- Assessment is conducted at Training center in in-person/offline mode
- For Skill assessment, environment is simulated to create a realistic Working Environment that should replicate the key features of the workplace. In job roles, where it is difficult to replicate the same, the OJT assessment is implemented.
- During the practical task, trainees are assessed on their workmanship, quality of finished product, time management, etc., based on the performance criteria (PC), knowledge and understanding and their professional and soft skills as specified in the qualification pack.
- Knowledge assessment is done through closed ended questions up to level 4 and from level 5 onwards, it is mixture of open ended and closed ended questions

#### 3. Assessment Quality Assurance levels/Framework

- Assessment criteria is developed for each QP which acts as a guide for developing question set /banks
- Sample questions aligned with Assessment criteria for each QP are developed by SSC and validated by industry
- Taking reference of Assessment criteria and Sample Questions, AAs create the question bank which is further validated by SSC
- Questions are mapped to the specified assessment criteria
- It is mandatory that Assessor and Trainer must be ToA certified & ToT Certified respectively

- Continuous Monitoring through virtual and In-person mode are conducted to ensure the assessment is conducted as per stipulated process
- Process and Technical audit of assessment batches by quality team are conducted to avoid the errors in assessment process
- A well -defined comprehensive framework of NON-COMPLIANCE MATRIX is defined and implemented to identify the non-compliance made by assessor and AA and punitive actions are taken correspondingly.
- The capacity building sessions are conducted regularly for assessors and assessment agencies to update them about best practices in assessment

#### **4. Types of evidence or evidence-gathering protocol:**

- Post Assessment, the evidences are uploaded by Assessor to assessment agency and further assessment agency to SSC as per stipulated TAT
- Evidences are broadly the photographic and video graphic in nature
- Assessment agencies upload the evidence on SIP and detailed evidence on SSC digital platform (ZoHO)
- Evidences are; NOS wise-Geotagged photographs and videos of Theory Test & Practical Tasks, Attendance sheet, result summary sheet, group photographs.

#### **5. Method of verification or validation:**

- The process and technical audit of assessment batches are done by SSC
- Attendance of each candidate is verified and it is ensured that only those candidates are assessed by assessors who are meeting the stipulated minimum percentage of attendance
- The result of each candidate is verified, it is verified that that result on SIP are matching with respect to summary sheet submitted by AAs
- Under detailed technical audit for sample of batches, the knowledge and skill assessment results for each candidate is checked in technical aspect.
- All the evidences of batches are preserved on server of SSC digital platform

#### **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.

Annexure 7: Acronym and Glossary

**Acronym**

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

**Glossary**

Term	Description
<b>National Occupational Standards (NOS)</b>	NOS defines the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long Term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>

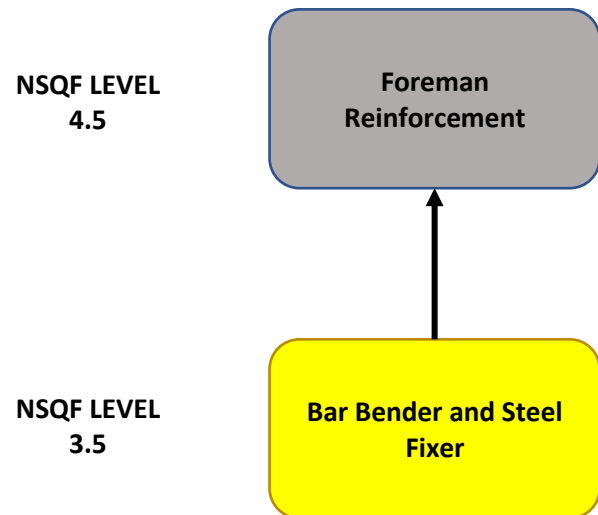
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Annexure 8: Career Progression



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