

QUALIFICATION FILE

Digital Connectivity Infrastructure (DCI) Designer

☒ 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: 5.5

Submitted By:

The Institution of Civil Engineers Society

Address: 301-303, Suncity Trade Tower, Sector-21, Gurugram, Haryana-122016

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Section 1: Basic Details

1.	Qualification Name	Digital Connectivity Infrastructure (DCI) Designer	
2.	Sector/s	Telecom/ Digital Infrastructure	
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved)	Qualification Name of existing/previous version:
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA	
5.	National Qualification Register (NQR) Code&Version (Will be issued after NSQC approval)	QG-5.5-TL-04295-2025-V1-ICES	6. NCrF/NSQF Level: 5.5
7.	Award (Certificate/Diploma/Advance Diploma/Any Other) (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate	
8.	Brief Description of the Qualification	A Digital Connectivity Infrastructure Designer specializes in integrating digital solutions into physical infrastructure to enable seamless communication and data transfer. They design structured cabling systems, wireless networks, and digital configurations that connect various components of the infrastructure. Their focus is on creating scalable, efficient, and reliable systems that support modern technological demands while ensuring robust connectivity across the entire infrastructure.	

9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1" data-bbox="1025 188 2063 821"> <thead> <tr> <th data-bbox="1025 188 1133 347">S. No.</th> <th data-bbox="1133 188 1541 347">Academic/Skill Qualification (with Specialization - if applicable)</th> <th data-bbox="1541 188 2063 347">Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1025 347 1133 507">1.</td> <td data-bbox="1133 347 1541 507">Completed 4-years UG in Civil/Architecture/IT/ECE/Electrical</td> <td data-bbox="1541 347 2063 507">Nil</td> </tr> <tr> <td data-bbox="1025 507 1133 715">2.</td> <td data-bbox="1133 507 1541 715">Completed 3-year diploma after 10th in Civil/Architecture/IT/ECE/Electrical</td> <td data-bbox="1541 507 2063 715">3 years</td> </tr> <tr> <td data-bbox="1025 715 1133 821">3.</td> <td data-bbox="1133 715 1541 821">Previous relevant Qualification of NSQF Level 5</td> <td data-bbox="1541 715 2063 821">1.5-year</td> </tr> </tbody> </table> b. Age: 18 years						S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	Completed 4-years UG in Civil/Architecture/IT/ECE/Electrical	Nil	2.	Completed 3-year diploma after 10th in Civil/Architecture/IT/ECE/Electrical	3 years	3.	Previous relevant Qualification of NSQF Level 5	1.5-year
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																	
1.	Completed 4-years UG in Civil/Architecture/IT/ECE/Electrical	Nil																	
2.	Completed 3-year diploma after 10th in Civil/Architecture/IT/ECE/Electrical	3 years																	
3.	Previous relevant Qualification of NSQF Level 5	1.5-year																	
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	20		11. Common Cost Norm Category (I/II/III) (wherever applicable): I															
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																	
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	☐Offline ☐Online ☒Blended <table border="1" data-bbox="994 1241 2094 1442"> <thead> <tr> <th data-bbox="994 1241 1272 1394">Training Delivery Modes</th> <th data-bbox="1272 1241 1429 1394">Theory (Hours)</th> <th data-bbox="1429 1241 1585 1394">Practical (Hours)</th> <th data-bbox="1585 1241 1749 1394">OJT Mandatory (Hours)</th> <th data-bbox="1749 1241 1966 1394">OJT Recommended (Hours)</th> <th data-bbox="1966 1241 2094 1394">Total (Hours)</th> </tr> </thead> <tbody> <tr> <td data-bbox="994 1394 1272 1442">Classroom (offline)</td> <td data-bbox="1272 1394 1429 1442"></td> <td data-bbox="1429 1394 1585 1442">240</td> <td data-bbox="1585 1394 1749 1442">120</td> <td data-bbox="1749 1394 1966 1442">0</td> <td data-bbox="1966 1394 2094 1442">600</td> </tr> </tbody> </table>						Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)		240	120	0	600
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)														
Classroom (offline)		240	120	0	600														

		Online	240				
		(Refer Blended Learning Annexure for details)					
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO/2015-2153.9900/2153.0100/2153.0400					
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	DCI – Designer (L5.5)  DCI - Evaluator (L6)					
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	☐ Yes ☒ No URLs of similar Qualifications:					
18.	Is the Job Role Amenable to Persons with Disability	☐ Yes ☒ No If “Yes”, specify applicable type of Disability:					
19.	How Participation of Women will be Encouraged	To encourage women to participate in DCI - Designer 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 DCI - Designer in 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 DCI - Designer 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)	☐ Yes ☒ No					
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☐ Yes ☒ No Colleges ☒ Yes ☐ 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: Maya Thakur Email: dg@ice.net.in Contact No.: +91 9717900050 Website: www.ice.net.in					

23.	Final Approval Date by NSQC: 8 th may'2025	24. Validity Duration: 3 Years post NSQC Approval	25. Next Review Date: 8 th may'2028
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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 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/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Basics of Digital Connectivity Infrastructure (DCI)	ICE/TEL/N 0301, v1.0	Core	5.5	1	15:00	11:00	04:00	00:00	30:00	40	50	-	10	100	20
2.	Design Electrical Systems in Infrastructure	ICE/TEL/N 0302, v1.0	Core	5.5	5	40:00	75:00	35:00	00:00	150:00	40	50		10	100	25
3.	Design Information and Communication Systems Design for Infrastructure	ICE/TEL/N 0303, v1.0	Core	5.5	7	80:00	90:00	40:00	00:00	210:00	40	50	-	10	100	30
4.	Digital Connectivity Equipments Management	ICE/TEL/N 0304, v1.0	Core	5.5	5	45:00	64:00	41:00	00:00	150:00	40	50	-	10	100	20

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/non-core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
	and Workplace Safety Practices															
5.	Employability Skills (60 Hours)	DGT/VSQ/N0102, v1.0	Non-Core	4	2	60:00	-	-	-	60:00	50	0	-	0	50	5
Duration (in Hours) / Total Marks					20	240	240	120	-	600	210	200	-	40	450	100

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:70%(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.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Post – Graduation in Civil/Architecture/IT/ECE/Electrical with 2-year experience or Graduation in Civil/Architecture/IT/ECE/Electrical with 3-year experience
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Post – Graduation in Civil/Architecture/IT/ECE/Electrical with 3-year experience or Graduation in Civil/Architecture/IT/ECE/Electrical with 4-year experience
3.	Tools and Equipment Required for Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Post – Graduation in Civil/Architecture/IT/ECE/Electrical with 1-year experience or Graduation in Civil/Architecture/IT/ECE/Electrical with 2-year experience
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	12 th pass
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Post – Graduation in Civil/Architecture/IT/ECE/Electrical with 1-year experience or Graduation in Civil/Architecture/IT/ECE/Electrical with 1-year experience
4.	Assessment Mode (Specify the assessment mode)	Online and Offline

5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>
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Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): No
2.	Latest Market Research Reports or any other source (not older than 2years) (Yes/No): No
3.	Government /Industry initiatives/ requirement (Yes/No): No
4.	Number of Industry validation provided: 24
5.	Estimated nos. of persons to be trained and employed: 1800
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: <i>In Process</i> If “No”, why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name:

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors <i>(Mandatory)</i>	<i>Annexure-1</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Annexure-2</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Annexure-6</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Annexure-7</i>
5.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case</i>	<i>NA</i>

	<i>qualification has multiple Entry-Exit)</i>	
6.	Annexure: Acronym and Glossary (<i>Optional</i>)	<i>Annexure-8</i>
7.	Annexure: Blended Learning (<i>Mandatory, in case selected Mode of delivery is “Blended Learning”</i>)	<i>Annexure-5</i>
8.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	<i>Yes</i>
9.	Supporting Document: Career Progression (<i>Mandatory - Public view</i>)	<i>Attached</i>
10.	Supporting Document: Occupational Map (<i>Mandatory</i>)	<i>Attached</i>
11.	Supporting Document: Assessment SOP (<i>Mandatory</i>)	<i>Attached</i>
12.	Any other document you wish to submit:	<i>No</i>

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
Professional Theoretical Knowledge/Process	- A Digital Connectivity Infrastructure Designer requires a strong foundation in networking principles, telecommunication standards, and system integration processes. Key theoretical knowledge includes understanding IP addressing, network topologies, protocols like TCP/IP and VLANs, and compliance with standards such as IEEE 802 and TIA/EIA. The role demands proficiency in designing scalable, secure, and efficient digital infrastructure, as well as the ability to troubleshoot complex connectivity issues. - This qualification equips professionals with the ability to design and implement advanced networking systems that meet current and future demands. Outcomes include expertise in planning robust network architectures, configuring devices like routers and switches, and ensuring compliance with regulatory standards.	This job role aligns with NCrF/NSQF level descriptors by demonstrating technical expertise, problem-solving, and adherence to safety, efficiency, and compliance standards, ensuring professional competency and workplace reliability.	5.5

	Qualified individuals contribute to the seamless operation of smart buildings, data centers, and industrial environments, enabling enhanced efficiency, scalability, and sustainability in digital infrastructure.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	• A Digital Connectivity Infrastructure Designer must possess advanced technical skills in configuring and managing networking devices, implementing secure connectivity solutions, and optimizing data flow. Expertise in handling equipment such as routers, switches, fiber-optic systems, and PoE technology is essential. Knowledge of troubleshooting tools like Wireshark, ping, and traceroute further enhances their technical capabilities. • The role demands a deep understanding of network design principles, telecommunication standards, and compliance with safety and performance regulations. Key outcomes of the qualification include the ability to create scalable, efficient, and secure digital infrastructure, effectively integrate diverse systems, and ensure high performance and reliability in smart buildings, data centers,	• These outcomes align with the NCrF/NSQF level descriptors by showcasing applied technical skills, problem-solving capabilities, and the ability to work independently and collaboratively in complex environments, ensuring professional excellence and workplace safety.	5.5

	and industrial settings.		
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	The role of a Digital Connectivity Infrastructure Designer requires expertise in configuring and maintaining advanced networking systems, including routers, switches, fiber optics, and structured cabling. Professionals must possess in-depth knowledge of network protocols, telecommunication standards, and compliance requirements to design scalable and efficient infrastructures. Key outcomes of this qualification include the ability to implement secure and reliable connectivity, integrate multiple systems seamlessly, and troubleshoot complex network issues, ensuring the infrastructure meets modern digital demands effectively.	These outcomes align with the NCrf/NSQF descriptors by fostering professional independence, entrepreneurial thinking, and practical skills essential for employment readiness and successful execution of technical roles in diverse environments.	5.5
Broad Learning Outcomes/Core Skill	The qualification for a Digital Connectivity Infrastructure Designer emphasizes a comprehensive understanding of network design, digital communication technologies, and infrastructure management. Core skills include proficiency in selecting and configuring network components, ensuring system security, and maintaining performance standards. The key outcome of	These outcomes align with the NCrf/NSQF descriptors by equipping learners with foundational and applied skills, fostering adaptability, and ensuring readiness to perform complex tasks independently and efficiently.	5.5

	this qualification is the ability to design and optimize connectivity systems, integrate various technologies, and troubleshoot connectivity issues, all while adhering to industry standards and best practices. These skills ensure professionals can meet the evolving demands of modern,		
Responsibility	The role of a Digital Connectivity Infrastructure Designer entails significant responsibility in planning, implementing, and maintaining digital communication systems. This includes ensuring the reliability, security, and scalability of network infrastructures, while adhering to regulatory standards and client specifications. The outcome of the qualification equips professionals with the knowledge to manage complex projects, address technical challenges, and collaborate with teams to deliver optimal connectivity solutions, ensuring the smooth operation of critical systems in various sectors.	Demonstrates advanced technical skills, analytical thinking, and the ability to apply knowledge independently. Aligns with NCrF/NSQF descriptors by showcasing accountability, problem-solving abilities, and adherence to safety and regulatory standards in professional environments.	5.5

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.	Crimping tool	Units	1
2.	Cable testers	Units	1
3.	Punch-down tools	Units	1
4.	Multi-meters	Units	1
5.	Routers	Units	1
6.	Switches	Units	1
7.	Network servers	Units	1
8.	Power supplies	Units	1
9.	Cat5e/Cat6 /Cat6a cables	Units	1
10.	Fiber optic cables	Units	1
11.	Coaxial cables	Units	1
12.	RJ45 connectors	Units	1
13.	Fiber optic connectors (LC, SC)	Units	1
14.	Coaxial connectors	Units	1
15.	Grounding kits	Units	1
16.	Network simulation software.	Application	1
17.	Measuring tape	Units	1

18.	Thermal imaging devices	Units	1
19.	Microsoft visio	Application	1
20.	Cisco packet tracer	Application	1
21.	Free CAD	Units	1
22.	Cable cutters	Units	1
23.	Strippers	Units	1
24.	Access points	Units	1
25.	Modems	Units	1
26.	Keystone jacks	Units	1
27.	Cable management accessories	Units	1
28.	Cable ties	Units	1
29.	Conduits	Units	1
30.	Labels	Units	1
31.	Markers	Units	1
32.	PPE(gloves, goggles, hard hats, insulated gloves, helmet, mask)	Units	1
33.	Rulers	Units	1
34.	Protractors	Units	1
35.	Graph paper	Units	1
36.	Clamp meter	Units	1
37.	Insulation tester	Units	1
38.	Laser distance meter	Units	1
39.	Screwdrivers	Units	1
40.	Pliers	Units	1
41.	Wire strippers	Units	1
42.	Cutters	Units	1

43.	Drills and Bits	Units	1
44.	Lockout/Tag out Kits	Units	1
45.	Circuit tracer	Units	1
46.	Cables and Wires	Units	1
47.	Conduits and Fittings	Units	1
48.	Circuit Breakers and Fuses	Units	1
49.	Cable puller/fish tape	Units	1
50.	Screwdrivers and Nut Drivers	Units	1
51.	Trunking	Units	1
52.	Cable trays	Units	1
53.	Heat shrinks tubing	Units	1
54.	Cable Glands and Bushings	Units	1
55.	Distribution boards	Units	1
56.	Earth rods	Units	1
57.	Clamps	Units	1
58.	Conduit bender	Units	1
59.	Earth resistance tester	Units	1
60.	Continuity tester	Units	1
61.	Sockets	Units	1
62.	Plugs	Units	1
63.	Connectors and Terminal Blocks	Units	1
64.	Cable Clips and Ties	Units	1
65.	Copper or aluminum cables and Conductors	Units	1
66.	Earth Clamps and Bonding Straps	Units	1
67.	Copper plates/strips	Units	1
68.	Backfill compound (bentonite)	Units	1

69.	Lifting Equipment (e.g., hoist or crane)	Units	1
70.	Circuit breakers	Units	1
71.	Isolators	Units	1
72.	Bus bars	Units	1
73.	Insulators	Units	1
74.	Earth wires	Units	1
75.	Bonding clamps	Units	1
76.	Ground plates	Units	1
77.	Radiators	Units	1
78.	Cooling fans	Units	1
79.	Ventilation systems	Units	1
80.	Wi-fi adapter	Units	1
81.	Patch panels	Units	1
82.	Strippers and Cleavers	Units	1
83.	Grounding bus bars	Units	1
84.	Bonding straps	Units	1
85.	Patch Cords and Jumpers	Units	1
86.	Connecting hardware	Units	1
87.	Esd (electrostatic discharge) mats	Units	1
88.	Smoke density tester	Units	1
89.	Temperature test chambers	Units	1
90.	Otdr (optical time-domain reflectometer)	Units	1
91.	Signal strength meters	Units	1
92.	Console cables	Units	1
93.	ESD wrist straps	Units	1
94.	First aid kits	Units	1

95.	Fire extinguishers	Units	1
96.	Safety barriers	Units	1
97.	Guardrails	Units	1
98.	Velcro Straps	Units	1
99.	Spirit level	Units	1
100.	Chalk	Units	1
101.	Wrenches	Units	1
102.	Gas Detector	Units	1
103.	Face Shield	Units	1
104.	Pipe Bender	Units	1
105.	Computers	Units	1
106.	Server	Units	1
107.	hard drives, SSDs, external storage	Units	1
108.	Ethernet, fiber optic cables	Units	1
109.	Cable testers	Units	1
110.	Wireless signal testers	Units	1
111.	Wireshark	Units	1
112.	VPN software and firewalls	Units	1
113.	VoIP systems	Units	1
114.	Zoom or Teams	Units	1
115.	Nut Driver	Units	1
116.	Fiber Optic Termination Kits	Units	1
117.	Fiber Optic Polishing Kit	Units	1
118.	Racks and Cabinets	Units	1
119.	Cable Trays and Raceways	Units	1
120.	Cable Ties: Junction Boxes	Units	1

121.	Flame Test Apparatus	Units	1
122.	Smoke Density Tester	Units	1
123.	Glow Wire Tester	Units	1
124.	IP Address Management Tools	Units	1
125.	PoE Injector and Tester	Units	1
126.	Fiber-Optic Transceivers	Units	1
127.	Intrusion Detection Systems	Units	1
128.	Wireless Access Points	Units	1
129.	Ping and traceroute	Units	1
130.	Network Performance Testing Tools (iPerf	Units	1
131.	Port Testers	Units	1
132.	Penetration Testing Tools	Units	1
133.	Orekit	Units	1
134.	Celestia	Units	1
135.	NS3	Units	1
136.	RTL-SDR, HackRF One or Lime SDR	Units	1
137.	GNU Radio + RTL-SDR,DSO Nano	Units	1
138.	Nagios Core	Units	1
139.	GnuPG	Units	1
140.	OpenSSL	Units	1
141.	Raspberry Pi paired with SDRs	Units	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

Annexure 3: Industry Validations Summary

Provide the summary information of all the industry validations in 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.	CRD	Rezwane Umar	Project Manager Cum Site Engineer	Rajdhani Masjid, Dispur, Assam	7002263323	rizlumar@gmail.com	
2.	Acropolis Institute of Technology & Research	Dr Kamal Kumar Sethi	Professor & Head - CSE	Bypass Road, Manglia Square, Indore	7314730000	info@acropolis.in	
3.	Sada E Umeed Foundation	Rafaqat Ashraf	Director	Greentwon Sopore Baramulla J&K	9149644536	sadaeumeedfoundation786@gmail.com	
4.	Jitender Associates	Jitender Muningum	Proprietor	Plot No A175 , Phase-II, Near Jalakanya Hotel Last Bus Stop Road, Kukatpally, Hyderabad	9849297759	jitendermuningum@gmail.com	
5.	Bandipora Infotech Pvt.	Sheikh	Managing Director	Ward no 02 Bandipora J&K	8803133144	Bildiporainfotech@gmail.com	

	Ltd						
6.	United Human Resource	Bhupiner Kumar	HR Manager	Opp. Civil Hospital, Saban Road, Bawal, Distt. Rewari	7056372603	infounitedhumaan@gmail.com	
7.	Aamdhan Pvt. Ltd	Navneet Yadav	Chief Business Officer	Plot no. 645, Vaishnavi Building Spaces & More. Road Number 36 Jubilee Hills, Hyderabad	9455035118	support@amdhan.com	
8.	Dyanamite Duro India Pvt Ltd	Mr. Rahul Dev	Commercial Manager	Villa No.119,Palm City, Dehradun	18001214383	info@dynamiteduro.com	
9.	BRICKS	Mr. V Gulati		517, 5th Floor, AIPL Joy Street, Badshapur, Sector-66, Gurugram	124 4274625	bricksarchitects19@gmail.com	
10.	Arushi Projects			C-29/30, 3rd Floor, Palam Vyapar, Kendra, Palam Vihar, Gurugram	124 4074841		
11.	The NorthCap University	Mr. Lokesh Chaudhary	Asst Professor	HUDA Sector 23A, Gurugram	7838071961	lokeshchoudhary@ncuindia.edu	
12.	Prince Institute of Innovative Technology (PIIT)	Sh Hem Singh	Asst Professor	Plot No.9, Knowledge Park-111, Greater Noida, Gautam Budh Nagar	6868251818	bharatprincepsingh@gmail.com	
13.	L & Q Surveys	Mr. S. N. Bansal	Chief	307, 3rd Floor,F-14, F	9811039706	lqsur@yahoo.com	

	Pvt Ltd		Executive Officer	Block, Middle Circle, Connaught Plce			
14.	Sri Aurobinda Engineering Institute	Mr Bireshwar Ganguly	President	Plot No. P/4, WBSIDCL Industrial Park-1, Kalyani Silpanchal, Kalyani	9007011451		
15.	Dev Public School	Mr. Subhakaran Pareek	Headmaster	New Delhi			
16.	HEC Group of Institution	Dr. Trapti Aggarwal	Dean - Academics	Uttarakhand		admin@heccollege.edu.in	
17.	Govt Polytechnic Dhanbad	Mr. Kameshwar Prasad Yadav	HOD – Civil Engg Dept.	Dhanbad	09472799907	kameshwar1437@gmail.com	
18.	Energy Care AndEfficiency	Dr. Vishal Gupta	Director - Operations	Andhra Pradesh	9997889515	vishalrahi@gmail.com	
19.	Manav Rachna International Institute of Research & Studies	Dr. Gurjeet Kaur Chawla	Dean Students Welfare	Faridabad	8527695490	dean.dsw@mriu.edu.in	
20.	RDC Concrete (India) Pvt Ltd	Mr. Avijit Chaubey	Technical Head	Thane West	8291133411	Avijit.chaubey@rdcconcrete.com	
21.	Surya Roshini Limited	Mr. CS Sharma		Bahadurgarh	8930472424	bgh@surya.in	
22.	NIT Delhi	Dr. Ajay Kumar	Associate Professor	New Delhi		ajay@nitdelhi.ac.in	

23	Rustomjee Prestige Vocational Education & Training Center LLP	Mr. Vinod. S	Sr. General Manager	Bengaluru	7353300042	info@rpvetc.co.in	
24	Lailesh Technologies Private Limited	Gunjan Ray	Pankaj Chandalia	Kolkata	9331076019	Subhasish.b@laileshtech.com	

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	600	200	5	5	-	-
2025	600	200	15	15	-	-
2026	600	200	30	30	-	-

Data to be provided year-wise for next 3 years

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

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed

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.
- 2.

Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☐ Digital Content ☐ Qualification Handbook ☐ Any Other:

Languages in which Content is available:

Annexure 5: Blended Learning

Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the NOS	List Recommended Tools – for all selected Components	Offline: Online Ratio
1	☐ Theory/ Lectures - Imparting theoretical and conceptual knowledge	Laptop/PC	Ratio will be decided as per the requirement
2	☐ Imparting Soft Skills, Life Skills and Employability Skills / Mentorship to Learners	Laptop/PC	
3	☐ Showing Practical Demonstrations to the	Lab	

	learners		
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shopfloortraining	Lab	
5	☐ Tutorials/ Assignments/ Drill/ Practice	Laptop/PC/Lab	
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Laptop/PC/Lab	
7	☐ On the Job Training (OJT)/ Project Work Internship/ Candidate Training	-	

Annexure 6: Detailed Assessment Criteria

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

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
ICE/TEL/N0301: Basics of Digital Connectivity Infrastructure (DCI)	Roles and responsibilities of a DCI- Designer	14	17	-	4
	PC1: Explain DCI framework principles and essential components.	-	-	-	-
	PC2: Describe key responsibilities of a DCI Designer.	-	-	-	-
	PC3: Identify career opportunities for a DCI Designer.	-	-	-	-
	Understand the elements of Active and Passive Infrastructure	13	17		3
	PC4: Analyze active and passive network component roles and interactions for seamless communication, adhering to industry standards	-	-	-	-
	PC5: Configure active network devices (routers, switches) for desired	-	-	-	-

	connectivity.				
	PC6: Terminate and test passive network components (cables, connectors) for proper data transmission.	-	-	-	-
	PC7: Integrate active components with existing passive infrastructure for cohesive systems.	-	-	-	-
	Prior processing for DCI	13	16		3
	PC8: Assess physical environments to optimize equipment placement and cable routing, creating detailed floor plans.	-	-	-	-
	PC9: Develop network topology diagrams, select cabling types, and estimate quantities according to standards.	-	-	-	-
	PC10: Verify component quality and pre-configure network equipment before installation, labeling cables for efficiency.	-	-	-	-
	PC11: Apply cable cutting, labeling, and RJ45 crimping practices, then test cables for continuity.	-	-	-	-
	PC12: Implement redundancy and failover mechanisms, configuring initial settings for all network devices.	-	-	-	-
	Total Marks	40	50	-	10
	Electrical Conventional drawing Symbols and general requirements in Infrastructure	8	10	-	2
ICE/TEL/N0302: Design Electrical Systems in Infrastructure	PC1: Interpret standard electrical symbols and locate components on blueprints, illustrating connections. (Apply, Understand).	-	-	-	-
	PC2: Design electrical circuits with correct symbols, dimensions, and annotations, drafting wiring plans for various infrastructure types, ensuring code compliance. (Create, Apply).	-	-	-	-
	PC3: Apply fundamental electrical principles (e.g., load calculations, grounding, circuit protection) throughout design, ensuring safety. (Apply).	-	-	-	-

PC4: Create comprehensive electrical system drawings using manual or software tools, establishing documentation processes. (Apply, Create).	-	-	-	-
PC5: Verify electrical drawing integration into installations by ensuring proper component placement and marking layouts on-site. (Evaluate, Apply).	-	-	-	-
Electrical Installation planning in Infrastructure	8	10	-	2
PC6: Assess power requirements and infrastructure constraints, designing optimized electrical layouts and planning safe routing for components.	-	-	-	-
PC7: Select appropriate electrical components based on load calculations and environmental factors, implementing energy-efficient strategies and integrating renewables.	-	-	-	-
PC8: Design and implement earthing, grounding, and bonding systems, ensuring correct application of protective devices and circuit separation.	-	-	-	-
PC9: Install wiring, conduits, and fixtures according to plans and standards, performing accurate terminations.	-	-	-	-
PC10: Develop detailed electrical installation plans adhering to codes, and conduct thorough tests to verify system performance and safety	-	-	-	-
Distribution of cabling and Supply in infrastructure	8	10	-	2
PC11: Select appropriate cable sizes and types, accurately calculating capacity and losses, and planning cable routes considering segregation and bending radius.	-	-	-	-
PC12: Design efficient power distribution feeder systems with load balancing, selecting appropriate cable management systems and distribution components.	-	-	-	-
PC13: Ensure proper earthing and protection for distributed cables, installing circuit breakers and adhering to safety codes.	-	-	-	-
PC14: Mount and connect distribution boards and feeders, ensuring accurate cable labeling and termination.	-	-	-	-

PC15: Conduct tests (continuity, insulation resistance, voltage drop) to verify system performance, identify faults, and rectify installation errors.	-	-	-	-
Electrical Wiring, Accessories, fittings and Earthing System in Infrastructure	8	10	-	2
PC16: Install various wiring systems (conduit, trunking), performing accurate cable routing, laying, and securing.				
PC17: Install switches, sockets, holders, and other electrical fittings according to layout plans, ensuring proper mounting and alignment.				
PC18: Set up earthing systems, including electrode installation and connections, measuring earth resistance and verifying connections.				
PC19: Select and install protective devices (fuses, MCBs, RCCBs, surge arresters), adhering to codes and safety principles.				
PC20: Identify and rectify faults in wiring and fittings to ensure system integrity and functionality.				
Capacities and area requirement in power infrastructure	8	10	-	2
PC21: Calculate system capacity based on load demand and expansion, considering voltage, efficiency, and power factor, relating ratings to building loads.	-	-	-	-
PC22: Size generators based on total electrical load and starting demands, selecting appropriate types and applying UPS sizing concepts for critical loads.	-	-	-	-
PC23: Explain the function of key power system components like circuit breakers, busbars, relays, and switchgear.	-	-	-	-
PC24: Install and commission generators, integrating cooling and fuel systems, and conducting operational tests.	-	-	-	-
PC25: Check voltage, load capacity, and efficiency, conducting insulation, dielectric strength, and functional tests for protective devices.	-	-	-	-
Total Marks	40	50	-	10
Basic Terminologies of Information and Communication in Infrastructure	6	8	-	1

**ICE/TEL/N0303:
Design of
Information and
Communication
Systems for
Infrastructure**

PC1: Set up and configure essential IT equipment (computers, servers, routers), including basic LAN/WAN and Wi-Fi networks, applying fundamental security protocols.	-	-	-	-
PC2: Manage data within IT systems (storage, databases, cloud services), illustrating simple backups and utilizing cloud for recovery, understanding data redundancy.	-	-	-	-
PC3: Set up communication systems for voice, video, and data, understanding bandwidth and transmission over wired and wireless media, differentiating routers/switches.				
PC4: Install and configure operating systems and essential software applications on IT equipment.	-	-	-	-
PC5: Utilize ICT tools (BAS, smart meters, IoT) to monitor infrastructure systems, diagnosing and resolving common IT issues.	-	-	-	-
Telecommunication spaces and connecting hardware requirements in infrastructure	7	9	-	2
PC6: Design telecommunication space layouts, ensuring proper allocation for hardware and cables, meeting building codes and safety standards.	-	-	-	-
PC7: Design and install structured cabling systems (copper and fiber optic) within telecommunication spaces, selecting appropriate cable management and performing accurate termination/testing.	-	-	-	-
PC8: Install and configure diverse telecommunication hardware (routers, switches, patch panels, servers) within designated spaces, ensuring proper labeling and grounding	-	-	-	-
PC9: Integrate essential power, environmental controls, and fire safety measures into telecommunication spaces, demonstrating integration with other infrastructure systems.	-	-	-	-

PC10: Diagnose and resolve common issues within telecommunication spaces (e.g., miswiring, signal loss) to ensure operational integrity.	-	-	-	-
Requirement of Connectors and connecting hardware and Telecommunication spaces in Infrastructure	7	8	-	2
PC11: Terminate copper and coaxial connectors onto cables following wiring schemes and crimping techniques, verifying integrity using testers.	-	-	-	-
PC12: Terminate fiber optic connectors, demonstrating proper techniques, and verify connections using optical power meters and OTDR.	-	-	-	-
PC13: Install patch panels, media converters, and server racks in telecommunication rooms, ensuring proper routing, secure connections, and grounding.	-	-	-	-
PC14: Implement cable management systems (trays, racks, conduits) to organize and protect cables, ensuring airflow and equipment spacing.	-	-	-	-
PC15: Diagnose and resolve connectivity failures and poor signal quality in copper and fiber networks, using performance tools to monitor.	-	-	-	-
Requirements and applications of Cabling Infrastructure	6	8	-	2
PC16: Determine appropriate cable types and lengths based on application factors, explaining their roles, and designing for capacity, signal integrity, and redundancy.	-	-	-	-
PC17: Install various cable types (UTP/STP, fiber optic, coaxial) and terminate with appropriate connectors, implementing cable management and redundancy.	-	-	-	-
PC18: Perform accurate copper and fiber optic terminations (e.g., RJ45, SC/LC, BNC/F-type), including cleaving and polishing for fiber.	-	-	-	-
PC19: Test installed cabling systems using appropriate tools (cable testers, optical power meters, OTDR) to verify connectivity and assess signal loss.	-	-	-	-
PC20: Identify common cabling issues (signal loss, faults, damage) using testing equipment and diagnose and correct them for optimal network performance.	-	-	-	-

Classification of Cables on behalf of Fire Safety properties in Infrastructure	7	9	-	2
PC21: Choose appropriate cable types (e.g., FR, FRR, LSZH, flame-resistant) based on application and fire safety needs, assessing environmental requirements.	-	-	-	-
PC22: Explain how cables mitigate fire risks by limiting flame spread, maintaining circuit integrity, and producing minimal smoke/halogen gases (LSZH).	-	-	-	-
PC23: Apply national and international regulatory standards for fire-safe cable installations.	-	-	-	-
PC24: Install fire-resistant/retardant cables in building systems (e.g., emergency lighting, fire alarms) according to standards and codes.	-	-	-	-
PC25: Conduct cable fire-safety tests (e.g., Vertical Flame, Smoke Density, Glow Wire) using appropriate equipment.	-	-	-	-
Satellite Communications (SATCOM) for Infrastructure	7	8		1
PC26: Design and configure basic SATCOM links for specific infrastructure needs, analyzing link budgets and evaluating satellite orbits.	-	-	-	
PC27: Implement SATCOM system parameters (power levels, modulation) to meet performance objectives, applying knowledge of frequency bands and network architectures.	-	-	-	
PC28: Perform antenna alignment, signal testing, and troubleshooting for SATCOM systems, including ground station setup and terrestrial network integration.	-	-	-	
PC29: Adhere to regulatory frameworks and licensing requirements, implementing cybersecurity measures for SATCOM links.	-	-	-	
PC30: Analyze the role of SATCOM in modern infrastructure, evaluating the suitability of different satellite orbits (GEO, MEO, LEO) for various use cases.	-	-	-	
Total Marks	40	50	-	10

ICE/TEL/N0304:
Digital Connectivity
Equipments
Management and
Workplace Safety
Practices

Understand the industry standards and specifications for digital connectivity equipment in infrastructure	<i>10</i>	<i>13</i>	-	<i>3</i>
PC1: Select appropriate digital connectivity equipment and cabling based on infrastructure requirements, considering factors like bandwidth, latency, scalability, and cost.	-	-	-	-
PC2: Install and configure digital connectivity devices and cabling according to industry standards, optimizing network performance with correct IP addressing, VLANs, and routing.	-	-	-	-
PC3: Apply relevant telecommunication standards (e.g., Structured Cabling, TIA/EIA) and LAN technologies (e.g., Ethernet, Wi-Fi, PoE) for network installation and cabling.	-	-	-	-
PC4: Test network speed, bandwidth, and reliability using appropriate tools to ensure performance standards are met.	-	-	-	-
PC5: Diagnose and resolve network connectivity issues (e.g., signal loss, latency) and adhere to data privacy regulations (e.g., GDPR, DPDPA).				
Installation and Configuration of digital Connectivity Equipment in infrastructure	<i>10</i>	<i>13</i>	-	<i>3</i>
PC6: Create efficient network architectures and topologies (e.g., star, mesh) that meet current and future data demands, adhering to IEEE, TIA/EIA, and ISO/IEC standards.	-	-	-	-
PC7: Install and manage routers, switches, and cabling (fiber-optic and copper) to ensure correct placement and minimize signal interference.	-	-	-	-
PC8: Configure digital connectivity devices by setting IP addresses, VLANs, routing protocols, and access controls.	-	-	-	-
PC9: Set up secure wireless networks, configuring Wi-Fi settings (SSID, encryption) and deploying PoE-enabled devices for power.	-	-	-	-

PC10: Test and verify device connections, signal strength, and latency, and diagnose issues like IP conflicts or misconfigurations.	-	-	-	-
Common issues during installation and configuration in infrastructure	10	12	-	2
PC11: Identify and resolve physical issues like incorrectly wired cables or damaged components and troubleshoot defective networking devices.	-	-	-	-
PC12: Diagnose and resolve IP address conflicts and subnetting errors using network configuration tools.	-	-	-	-
PC13: Use network performance tools to measure and address bandwidth, latency, and packet loss issues.	-	-	-	-
PC14: Verify communication between devices using tools like ping and traceroute, identifying and rectifying issues with routing protocols.	-	-	-	-
PC15: Identify and address security vulnerabilities (e.g., weak passwords, improper firewall rules) and hardware/software compatibility challenges.	-	-	-	-
Workplace Safety	10	12	-	2
PC16: Identify common construction site hazards, and implement safety barriers, signage, and lighting to mitigate risks.	-	-	-	-
PC17: Handle and store tools, equipment, and materials properly, selecting and using appropriate Personal Protective Equipment (PPE) for the working conditions.	-	-	-	-
PC18: Maintain high standards of personal hygiene and implement infection control practices to ensure a safe working environment.	-	-	-	-
PC19: Apply effective verbal and non-verbal communication skills, demonstrating professionalism and resolving conflicts calmly. (Apply).	-	-	-	-
PC20: Adhere to audit procedures and work instructions, maintaining accurate incident records to ensure accountability and compliance.	-	-	-	-
Total Marks	40	50	-	10

**DGT/VSQ/N0102:
Employability Skills (60
Hours)**

<i>Introduction to Employability Skills</i>	4	-	-	-
PC 1 Identify employability skills required for jobs in various industries	-	-	-	-
PC 2 Identify and explore learning and employability portals	4	-	-	-
<i>Constitutional values – Citizenship</i>				
PC 3 Recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. And personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC 4 Follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	5	-	-	-
PC 5 Recognize the significance of 21st Century Skills for employment	-	-	-	-
PC 6 Practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. In personal and professional life	-	-	-	-
<i>Basic English Skills</i>	4	-	-	-
PC 7 use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC 8 read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC 9 write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	5	-	-	
PC 10 understand the difference between job and career	-	-	-	-
PC 11 prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills & Team Work</i>	4	-	-	-

PC 12	follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC 13	interact with reporting superior concerning the job order, work output requirements, targets, performance indicators and incentives	-	-	-	-
PC 14	ensure the timely completion of tasks through effective coordination, and as the applicable quality standards	-	-	-	-
PC 15	ensure timely resolution of any problems, complaints and delays through coordination with the relevant personnel and superiors	-	-	-	-
PC 16	practice active communication and respect with the personnel and superiors to achieve a smooth workflow and resolve work standards and quality-related concerns	-	-	-	-
PC 17	maintain appropriate documentation concerning the completed work schedule as per the organizational requirements	-	-	-	-
PC 18	prioritize team work and work towards achieving the shared goals by supporting team members	-	-	-	-
<i>Diversity & Inclusion</i>		5	-	-	-
PC 19	communicate, and behave appropriately with all genders and PwD	-	-	-	-
PC 20	educate the co-workers on women's rights and the respect they should be given	-	-	-	-
PC 21	follow and implement the recommended practices to prevent sexual harassment, physical and verbal abuse, and objectification of women	-	-	-	-
PC 22	follow the appropriate safety precautions while taking transportation facilities and night trips, as applicable	-	-	-	-
PC 23	escalate any issues related to abuse and sexual harassment at workplace according to POSH Act and organizational procedure	-	-	-	-
<i>Financial and Legal Literacy</i>		4	-	-	-

PC 24	select financial institutions, products and services as per requirement	-	-	-	-
PC 25	carry out offline and online financial transactions, safely and securely	-	-	-	-
PC 26	identify common components of salary and compute income, expenses, taxes, investments etc.	-	-	-	-
PC 27	identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>		4	-	-	-
PC 28	operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC 29	use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC 30	use basic features of word processor, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>		4	-	-	-
PC 31	Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC 32	Develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC 33	identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
PC 34	follow the 5S standards to organize the workplace and create a productive work environment	-	-	-	-
<i>Customer Service</i>		3	-	-	-
PC 35	identify different types of customers	-	-	-	-
PC 36	follow and implement appropriate hygiene, grooming standards and professional dress code at work	-	-	-	-

PC 37	communicate politely, professionally and positively with customers and encourage the personnel to do the same	-	-	-	-
PC 38	build effective but impersonal relationships with customers	-	-	-	-
PC 39	practice and encourage active listening for effective communication with customers and co-workers	-	-	-	-
PC 40	ensure effective probing of customers to identify their needs and expectations	-	-	-	-
PC 41	ensure appropriate products and services and relevant information is provided to customers	-	-	-	-
PC 42	follow and implement appropriate practices to respect cultural and social differences	-	-	-	-
PC 43	provide appropriate products and services to customers based on their needs	-	-	-	-
PC 44	maintain effective communication with customers, keeping them informed regarding any issues and developments involving them	-	-	-	-
PC 45	identify and address customer dissatisfaction and complaints promptly and effectively	-	-	-	-
PC 46	follow the company's code of behaviour to enhance its brand value, treating customers fairly and honestly	-	-	-	-
PC 47	obtain customer feedback and implement appropriate measures to improve customer satisfaction	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>		4	-	-	-
PC 48	create a professional Curriculum vitae (Résumé)	-	-	-	-
PC 49	search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC 50	apply to identified job openings using offline /online methods as per requirement	-	-	-	-

	PC 51 answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
	PC 52 identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
	Total Marks	50	0	-	-
Grand Total		210	200	-	50

Annexure 7: 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 Awarding Body
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- Awarding Body 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 are 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 Awarding Body and validated by industry
- Taking reference of Assessment criteria and Sample Questions, AAs create the question bank which is further validated by Awarding Body
- 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 Awarding Body 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 Awarding Body
- 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 are checked in technical aspect.
- All the evidences of batches are preserved on server of Awarding Body digital platform

On the Job:

- On job training (OJT), candidates undergo training and learning 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 ICE. 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 8: 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
EMF	Electromotive force
LV	Low-Voltage
AC	Alternating Current
DC	Direct Current
DB	Distribution Boards
APFC	Automatic Power Factor Control
MCB	Miniature Circuit Breaker
ELCB	Earth Leakage Circuit Breaker
CCTV	Closed-Circuit Television
HVAC	Heating, Ventilation, and Air Conditioning
BMS	Building Management System
BIM	Building Information Modeling

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define 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.
Qualification	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
Qualification File	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.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf