

QUALIFICATION FILE

Mechanical Engineering and Plumbing General Manager (Electronics)

☒ 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: 6

Submitted By:

Electronics Sector Skills Council of India (ESSCI)

155, 2nd Floor, ESC House

Okhla Industrial Area - Phase 3,

New Delhi – 110020

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Section 1: Basic Details

1.	Qualification Name	Mechanical Engineering and Plumbing General Manager (Electronics)														
2.	Sector/s	Electronics														
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved)- QG-07-EH-00425-2023-V1.1-ESSC & V2.0		Qualification Name of existing/previous version: Mechanical Engineering and Plumbing General Manager												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA														
5.	National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval)	QG-06-EH-03968-2025-V3-ESSCI		6. NCrF/NSQF Level: 6												
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 Mechanical Engineering and Plumbing General Manager (Electronics) is responsible for planning, managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects at the client premises. The individual is also responsible for preparing the tender proposal and making presentations to secure MEP contracts, identifying the training needs of company personnel and arranging training, recruitments, risk assessment, Profit & Loss (P&L) management, etc.														
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>UG Degree (3 or 4 year Completed) (Physics/Electronics / Electrical/ Mechanical)</td> <td>2 years of relevant experience.</td> </tr> <tr> <td>2</td> <td>3 Year Diploma after 10th in (Electronics/Electrical /Mechanical)</td> <td>4.5 years of relevant experience.</td> </tr> <tr> <td>3</td> <td>Previous relevant qualification of NSQF level 5.5</td> <td>1.5 years of relevant experience</td> </tr> </tbody> </table> # Relevant Experience in Industrial Automation.			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	UG Degree (3 or 4 year Completed) (Physics/Electronics / Electrical/ Mechanical)	2 years of relevant experience.	2	3 Year Diploma after 10th in (Electronics/Electrical /Mechanical)	4.5 years of relevant experience.	3	Previous relevant qualification of NSQF level 5.5	1.5 years of relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)														
1	UG Degree (3 or 4 year Completed) (Physics/Electronics / Electrical/ Mechanical)	2 years of relevant experience.														
2	3 Year Diploma after 10th in (Electronics/Electrical /Mechanical)	4.5 years of relevant experience.														
3	Previous relevant qualification of NSQF level 5.5	1.5 years of relevant experience														
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	22		11. Common Cost Norm Category (I/II/III) (wherever applicable): I												
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA														

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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					
		Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)
		Classroom (offline)	00:00	240:00	210:00	00:00	660:00
		Online	210:00	00:00	00:00	00:00	
(Refer Blended Learning Annexure for details)							
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/7411.0100					
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Product Development Head					
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	No gender sensitization					
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	☒ Yes ☐ No Employability Skills (DGT/VSQ/N0102)					
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: Saleem Ahmed Email: ceo@essc-india.org Contact No.: 011 – 8447738501 Website: https://www.essc-india.org/					
23.	Final Approval Date by NSQC: 07.05.2025	24. Validity Duration: 3 Years				25. Next Review Date: 30.04.2028	

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 Man.-Mandatory Training 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	Manage the tendering, sub-contracting and planning processes for MEP Projects	ELE/N7106 & V 2.0	Core	6	7	66	54	90	0	210	30	40	0	30	100	30
2	Manage the MEP project execution, commissioning, testing and handover processes	ELE/N7107 & V 2.0	Core	6	9	90	90	90	0	270	30	40	0	30	100	25
3	Carry out internal organizational - level responsibilities	ELE/N7108 & V 2.0	Core	6	4	30	60	30	0	120	30	40	0	30	100	25
4	Employability Skills (60 hours)	DGT/VSQ/N 0102 & V1.0	Non-core	4	2	24	36	0	0	60	20	30	0	0	50	20
Duration (in Hours) / Total Marks					22	210	240	210	0	660	110	150	0	90	350	100

Elective NOS/s:

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.																
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

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.																
2.																
Duration (in Hours) / Total Marks																

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	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	B.E./B.Tech (Electronics/Electrical/Mechanical) with 5 years industrial and 2 years training experience in the field of Industrial Automation. Or Certified in relevant CITS Trade
2	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	B.E./B.Tech (Electronics/Electrical/Mechanical) with 7 years industrial and 2 years training experience in the field of Industrial Automation. Or Certified in relevant CITS Trade
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)	B.E./B.Tech (Electronics/Electrical/Mechanical) with 7 years industrial and 2 years training experience in the field of Industrial Automation. Or Certified in relevant CITS Trade
2	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	B.E./B.Tech (Electronics/Electrical/Mechanical) with 8 years industrial and 2 years training experience in the field of Industrial Automation. Or Certified in relevant CITS Trade
3	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	B.E./B.Tech (Electronics/Electrical/Mechanical) with 8 years industrial and 2 years training experience in the field of Industrial Automation. Or Certified in relevant CITS Trade
4	Assessment Mode (Specify the assessment mode)	Blended
5	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

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): Yes
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 21
5.	Estimated nos. of persons to be trained and employed: 5000
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

<Ratified in 43rd NSQC Meeting & Dated: 08/05/2025>

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Attached
2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Attached
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached
4.	Annexure: Assessment Strategy (Mandatory)	Attached
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	Filled
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	Filled
7.	Annexure: Acronym and Glossary (Optional)	Attached
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Attached
9.	Supporting Document: Career Progression (Mandatory - Public view)	Attached
10.	Supporting Document: Occupational Map (Mandatory)	Attached
11.	Supporting Document: Assessment SOP (Mandatory)	
12.	Any other document you wish to submit:	

Annexure: 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	Demands a wide range of specialised technical skill, clarity of knowledge and practice in a broad range of activity involving standard and non-standard practices. ● Select tenders and prepare the tender proposal ● Submit the tender proposal and make presentations ● Carry out planning for the delivery of MEP project	A Mechanical Engineering and Plumbing General Manager (Electronics) is responsible for planning, managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects at the client premises. The individual is also responsible for preparing the tender proposal and making presentations to secure MEP contracts, identifying the training needs of company personnel and arranging training, recruitments, risk assessment, Profit & Loss (P&L) management, etc.	6

	Manage MEP installation, commissioning, testing and handover process		
Professional and Technical Skills/ Expertise/ Professional Knowledge	Basic knowledge of electronics involved in hardware, how to operate the system and other hardware peripherals - Knowledge of repairing the tender proposal and making presentations to secure MEP contracts - Knowledge of identifying the training needs of company personnel and arranging training, recruitments. - Must have managerial, organizational and problem-solving skills	A Mechanical Engineering and Plumbing General Manager (Electronics) should know the knowledge of different Processes involved for planning, managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects at the client's premises. Hence Level 6	6
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study. - Install the desktop computer peripherals Follow emergencies, rescue and first- aid procedures - Comply with the quality and safety standards - Communicate effectively at the workplace	A Mechanical Engineering and Plumbing General Manager (Electronics) should have the knowledge of managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects. Also, identifying the training needs of company personnel and arranging training, recruitments, risk assessment, Profit & Loss (P&L) management. Hence Level 6	6
Broad Learning Outcomes/Core Skill	Reasonably good in installing and configuring peripherals. - Maintain and enhance professional competence - Uphold social diversity at the workplace - Carry out miscellaneous managerial responsibilities - Manage the department finances	A Mechanical Engineering and Plumbing General Manager (Electronics) is responsible for planning, managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects at the client premises. The individual is also responsible for preparing the tender proposal and making presentations to secure MEP contracts, identifying the training needs of company personnel and arranging training, recruitments, risk assessment, Profit & Loss (P&L) management, etc.	6
Responsibility	Responsibility of completing the work assigned and reporting the same as per standards.	A Mechanical Engineering and Plumbing General Manager (Electronics) is responsible for planning, managing, monitoring	6

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	• Understand the job role and follow the organizational policy • Record and report about the work status • Follow safety regulations at work place • Work along with colleagues and supervisors.	and execution of Mechanical Engineering and Plumbing (MEP) projects at the client premises. Hence Level 6	
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Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specifications	Quantity for specified Batch size
1	Marker	Nos	12
2	Projector	Nos	1
3	Laptop	pieces	1
4	Damper Actuators	pieces	5
5	Valve Actuators	pieces	5
6	Variable Speed Drives (VSD)	pieces	1
7	Pumps Fans Motors	pieces	5
8	Water Flows Pressures	pieces	5
9	Voltages Currents	pieces	5
10	Temperature Relative Humidity (CO2) Measurement Equipment	pieces	2
11	Automation level controllers	Nos	1
12	BACnet router / Gateway	Nos	1
13	LAN Controller	Nos	1
14	VAV Controller	Nos	1
15	VAV BOX	pieces	1
16	Alarm	pieces	5
17	Monitor and Control Field Points	pieces	5
18	BMS Network	pieces	1
19	Graphic User Interface (GUI)	pieces	1
20	Control Application Programming	pieces	1
21	Energy Management Software	No	1
22	Lighting Control System	pieces	5
23	CCTV	pieces	5

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24	Security Network / System	pieces	5
25	Fire Alarm Systems	pieces	5
26	Smoke detector	pieces	5
27	Heat Detector	pieces	5
28	Emergency and Safety Sign	pieces	5
29	Fire extinguishers	pieces	5

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker

Annexure: 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	Access Edutech Pvt. Ltd.	Sanjay Kumar Mishra	Director	96, Vrindavan Nagar Ayodhya Bypass Road Bhopal	7000650224	sanjaymishra@accessedutech.com	
2	Artificial Intelligence Technologies	Rohit Kumar Sharma	Manager – Product Development	A-21, Sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi	9927564461	rohit.sharma@aituniversity.com	
3	Conduent	Prince Jain	Senior Business Analyst	Candor Tech Space, IT/ITES SEZ., Noida, Uttar Pradesh 201304	8439385780	prince.jain@conduent.com	
4	Ephicity Lifescience Analytics	Rahul Kumar Kaushik	Senior Software Engineer	2nd Main Rd, Sarvobhogam Nagar, Arekere, Bengaluru, Karnataka 560076	8859885973	Rahul.Kaushik@ephicity.com	

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5	Involute Automation Pvt. Ltd.	Vijaya Chandra	Operations In-Charge	Plot no:12, Technocrats Industrial Estate, Balanagar, Hyderabad, Telangana- 500037	9959232315	vijayachandra@involu tetra training.com	
6	Nagravision India Pvt. Ltd.	Avinash Yadav	Manager – System Administrator	RMZ Centennial, Tower C unit 301 and 302, Mahadevapura Post ITPL Road, Bangalore, India	9808326626	avinash.yadav@nagra. com	
7	Nexgen Exhibitions Pvt. Ltd.	Saurabh Purwar	Director	1201/1206 Pragati Tower, 26 Rajendra Place, New Delhi-110008, India	9457306691	fbvidgo@gmail.com	
8	SHIV SHAKTI TECKNIKI EVAM SAMANAYA SHIKSHAN SANSTHAN	Jitendra Kumar Garg	President	B 32 MAHESH NAGAR JAIPUR RAJASTHAN-302015	9782912782	jitendra.garg303@gm ail.com	
9	Sri Venkateswara College of Engineering	Dr. C Chandrasekhar	Head R&D & Professor in ECE	Karakambadi Road, Tirupati-517507	9177217190	dr.chandrasekhar.c@s vcolleges.edu.in	
10	Siemens Limited	Manoj Belgaonkar	Head – Regulations, Standards and QM	R&D Centre, Thane Belapur Road, Airoli, Navi Mumbai 400708	9820682825	manoj.belgaonkar@si emens.com	
11	Tata Consultancy Services	Sheepra Kaushik	Consultant – Product Development	Level 3, Kensington B Wing, Hiranandani SEZ, Powai, Mumbai 400076	8433595090	sheepra.sharma@tcs.c om	
12	Yaduvanshi Private ITI	Yadvendra	Principal	TC229199 - YADUVANSHI PVT ITI, Hasampur, Neemkathana, Sikar, Rajasthan, PIN - 332718	8432882688	yaduvanshicollege200 8@gmail.com	
13	Sai Skill Tech	Satyanarayana	Director	1-2-66/2, Street No. 1, Kakatiya Nagar, Habsiguda, Hyderabad-07	9866558375	saiskilltech@gmail.co m	
14	Microtek College of Management & Technology	Rashid Khan	Academic Director	D-18 Industrial Estate, Aligarh, UP- 202001	9568010190	info@microtek.ac.in	

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15	ACE Automation Engineers	Rajesh Sharma	Technical Head	Plot No. 3, Sector-6, IMT Manesar, Gurgaon, Haryana	9312345678	rajesh.sharma@aceau.to.com	
16	Precision Automation & Robotics India Ltd.	Snehal Joshi	Training Manager	Pune Nagar Road, Sanaswadi, Pune - 412208	9503221100	snehal.joshi@pari.com	
17	ITM University	Anand Dixit	Head of Department	Sector 23A, Gurgaon, Haryana – 122017	9876543210	anand.dixit@itmindia.edu	
18	RKDF University	Dr. Sushil Kumar	Dean - Engineering	Airport Bypass Road, Gandhi Nagar, Bhopal – 462033	7890123456	sushil.kumar@rkdf.ac.in	
19	Phoenix Automation	Naveen Rathi	Technical Director	Phase-1, IDA Jeedimetla, Hyderabad – 500055	9988776655	naveen.rathi@phoenixauto.in	
20	AMTZ – Andhra Med Tech Zone	Meena Kumari	Head – Skilling Division	Pragati Maidan, Vishakhapatnam – 530012	9090909090	meena.k@amtz.in	
21	Arka Industrial Automation	Ravi Teja	Project Manager	Kukatpally, Hyderabad – 500072	9000001111	ravi.teja@arkautomation.com	

Training and Employment Projections:

Year	Total Candidates	Women	People with Disability
	Estimated Training # Total	Estimated Training # Women	Estimated Training # PwD
2025-26	1500	NA	NA
2026-27	1500	NA	NA
2027-28	2000	NA	NA

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
2.0	2022-23	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
2.0	2023-24	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
2.0	2024-25	5799	4796	4402	NA	NA	NA	NA	NA	NA	NA	NA	NA

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. PMKVY
- 2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

1. English

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 Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☒ Theory/ Lectures - Imparting theoretical and conceptual knowledge	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	30:70
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	• Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content	30:70
3	☒ Showing Practical Demonstrations to the learners	• Video Content • E-Resource library • AR/ VR/ XR	30:70
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	• Training tools (tools list attached) • Video Play • Presentations	30:70
5	☒ Tutorials/ Assignments/ Drill/ Practice	• Online Question Bank • Mobile Quick test app • MCQ based tests	30:70
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	• Assessment engine for Essays • Up-loadable file examinations • Mock test sessions	30:70
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	• Online tests • Offline assessments	30:70

Annexure: Detailed Assessment Criteria

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

NOS/Module Name	PC	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
ELE/N7106-Manage the tendering, sub-contracting and planning processes for MEP Projects	Select tenders and prepare the tender proposal		10	10		10
	PC1.	analyses the tenders and shortlist those that the organization is eligible to apply for, establishing the scope of work and any specific requirements	1	1		1
	PC2.	manage the preparation of MEP shop drawing, specification and Bill of Quantities (BOQ) along with budgeting	1	1		1
	PC3.	analyses the blueprints, project documents and specifications to prepare accurate cost, materials and labor estimates for all project stages	2	2		2
	PC4.	prepare Tender Check Estimates (TCE) for contracts and bill of materials, including Electrical, Mechanical and Plumbing quantities, drawings, and technical specifications	2	2		2
	PC5.	perform detailed calculations to compute and establish construction and installation standards and specifications	2	2		2
	PC6.	prepare the tender proposal in the prescribed format using the appropriate software tool, highlighting the organization's eligibility for the tender along with information about the projects delivered successfully and the organization's clientele, ensuring the accuracy of the information	2	2		2
	Submit the tender proposal and make presentations		5	10		5
	PC7.	analyses the MEP drawings and sketches during proposal preparation for the quotation purpose	1	2		1
	PC8.	submit the tender proposal documents to the prospective client following the prescribed tendering process	1	2		1
	PC9.	carry out presentations and negotiations with the prospective client	1	2		1
	PC10.	carry out necessary documentation with the client after winning the bid	1	2		1
	PC11.	solicit feedback for the failed bids to identify the areas of	1	2		1
	Select the sub-contractors		5	10		5
	PC12.	identify the area of MEP work that will require sub- contracting	1	2		1

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	PC13.	prepare customized bids and take-offs/ Bill of Quantities (BOQ) for MEP sub-contractors	1	2		1
	PC14.	invite bids from potential sub-contractors	1	2		1
	PC15.	evaluate the bids to shortlist sub-contractors and finalise a sub-contractor	1	2		1
	PC16.	carry out the necessary documentation and hand over the sub-contract to the eligible sub- contractor	1	2		1
	Carry out planning for the delivery of MEP project		10	10		10
	PC17.	manage the MEP design process between internal teams, clients and subcontractors	1	1		1
	PC18.	coordinate with the client and relevant departments in the organization for the approval of BOQ, Goods for Construction (GFC)/ General Arrangement (GA) drawings and shop drawings	1	1		1
	PC19.	co-ordinate with the procurement team to ensure the required resources are procured for the completion of the MEP project, ensuring the adequacy of the resources for the timely completion of the project	2	2		2
	PC20.	select a team of skilled managers, engineers and support staff to work on the execution of the project	2	2		2
	PC21.	provide inputs for effective planning and scheduling of MEP project	2	2		2
	PC22.	carry out planning and scheduling using the relevant software tools, according to the Service Level Agreement (SLA) signed with the client	2	2		2
	NOS Total		30	40	-	30
ELE/N7107-Manage the MEP project execution, commissioning, testing and handover processes	Manage MEP installation, commissioning, testing and handover process		8	15		10
	PC1.	co-ordinate with the relevant authorities to obtain the fire No Objection Certificate (NOC) and Occupancy Certificate (OC) and any other relevant statutory permissions/licenses	1	1		1
	PC2.	manage the installation of various systems such as plumbing, firefighting system, Sewage Treatment Plant (STP), Waste Treatment Plant (WTP), Heating, Ventilation, and Air- conditioning (HVAC) and lifts	1	1		1
	PC3.	manage the installation of various equipment such as a substation, High Tension (HT)/ Low Tension (LT) Panels, Transformer, Diesel Generator (DG) sets, bus duct, meter board panels, fire alarm system, etc.	1	1		1
	PC4.	ensure conducting, electrical wiring, rising main and other internal low side and high side electrical work is carried out appropriately	1	1		1

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PC5.	ensure the installation of LV distribution, lighting and power circuits, telephone/ data system, access control, Public Address (PA) system, CCTV, cable management, earthing and lightning protection system is carried out as per the shop drawing and client requirements	1	1		1
PC6.	manage the MEP execution, commissioning and testing processes through coordination with the internal teams, sub- contractors and client, such as work order amendments when required	1	1		1
PC7.	ensure adherence to the design, Bill of Quantities (BOQ) specifications, industry standards, local and international building codes, Quality Control (QC) procedures, planned timelines and consistency with the company strategy and goals in line with the allotted budget	1	1		1
PC8.	implement corrective measures to deal with any deviations and delays in project delivery	1	1		1
PC9.	compile the necessary documents for handover and check their accuracy		2		1
PC10.	perform all post-tender activities until the handing over and completion of the defects liability period of the project		2		1
PC11.	carry out handover to the client following the agreed process		3		
Manage the client and sub-contractor relationships		10	10		10
PC12.	audit the performance of MEP sub-contractors and take appropriate action as required	2	2		2
PC13.	ensure compliance with the regulatory and organization's Quality, Health, Safety and Environment (QHSE) guidelines by the MEP subcontractors	3	3		3
PC14.	ensure effective coordination among clients, sub- contractors, department heads, MEP project managers and staff	2	2		2
PC15.	verify the MEP contractors' bills and co- ordinate with the finance team for their processing	3	3		3
Carry out documentation		12	15		10
PC16.	prepare the relevant reports such as project progress report using the relevant software tools after compiling data from various departments in the organization	4	5		3
PC17.	review the resource reports such as manpower histograms along with the machinery schedule	4	5		3
PC18.	communicate with all the stakeholders based on the reports and agree on an action plan as required	4	5		4

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		NOS Total	30	40	-	30
ELE/N7108 Carry out internal organizational - level responsibilities		Manage staff and daily operations	8	10		10
	PC1.	co-ordinate the development of key performance goals for functions and subordinates	2	3		3
	PC2.	carry out staffing, ensuring staff with the required skills are deployed at different levels of project delivery	2	3		3
	PC3.	manage the daily operations of the business unit such as budgeting, production planning, inventory management	2	2		2
	PC4.	monitor the performance of the key managers and executives	2	2		2
		Arrange for the training of the MEP team and mentor them	4	10		5
	PC5.	identify knowledge and skills gaps among the various MEP departments in the organization through internal audits and surveys	1	3		3
	PC6.	arrange for regular training of the MEP workforce to ensure effective delivery of projects	2	3		1
	PC7.	lead and mentor a team of mechanical and electrical managers to achieve the best results in line with the agreed goals	1	4		1
		Manage the department finances	6	10		5
	PC8.	carry out Profit and Loss (P&L) management and devise strategies to grow the business and communicate the strategies to the Board of Directors (BOD) for their approval	3	5		3
	PC9.	review and analyses the expenditure to ensure compliance with the set budget	3	5		2
		Carry out miscellaneous managerial responsibilities	12	10		10
	PC10.	carry out risk assessment and contingency planning, and communicate the same to internal and external stakeholders	3	2		2
	PC11.	ensure effective control on the distribution of information among the client, internal departments and sub-contractors	3	2		2
	PC12.	coordinate with various organizational departments to ensure streamlined business processes and develop effective operations plans to achieve the organizational objectives	3	3		3
	PC13.	develop and execute strategies to identify and connect with potential clients	3	3		3
		NOS Total	30	40	-	30
		Introduction to Employability Skills	1	1	-	-

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DGT/VSQ/N0102 - Employability Skills (60 hours)	PC1.	understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
	PC2.	identify and explore learning and employability relevant portals	-	-	-	-
	PC3.	research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
	Constitutional values – Citizenship		1	1	-	-
	PC4.	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.	-	-	-	-
	PC5.	follow environmentally sustainable practices	-	-	-	-
	Becoming a Professional in the 21st Century		1	3	-	-
	PC6.	recognize the significance of 21st Century Skills for employment	-	-	-	-
	PC7.	practice the 21st Century Skills such as Self- Awareness, Behavior 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	-	-	-	-
	PC8.	adopt a continuous learning mindset for personal and professional development	-	-	-	-
	Basic English Skills		3	4	-	-
	PC9.	use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
	PC10.	read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
	PC11.	write short messages, notes, letters, e-mails etc. in English	-	-	-	-
	Career Development & Goal Setting		1	2	-	-
	PC12.	identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
	PC13.	prepare a career development plan with short- and long-term goals	-	-	-	-
	Communication Skills		2	2	-	-
	PC14.	follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
	PC15.	use active listening techniques for effective communication	-	-	-	-

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PC16.	communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17.	work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion		1	1	-	-
PC18.	communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19.	escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy		2	3	-	-
PC20.	identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21.	carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-
PC22.	identify common components of salary and compute income, expenses, taxes, investments etc.	-	-	-	-
PC23.	identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills		3	5	-	-
PC24.	operate digital devices and use their features and applications securely and safely	-	-	-	-
PC25.	carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
PC26.	display responsible online behavior while using various social media platforms	-	-	-	-
PC27.	create a personal email account, send and process received messages as per requirement	-	-	-	-
PC28.	carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
PC29.	utilize virtual collaboration tools to work effectively	-	-	-	-
Entrepreneurship		2	3	-	-
PC30.	identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC31.	develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-

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PC32.	identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service		1	2	-	-
PC33.	identify different types of customers and ways to communicate with them	-	-	-	-
PC34.	identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC35.	use appropriate tools to collect customer feedback	-	-	-	-
PC36.	follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs		2	3	-	-
PC37.	create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38.	search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39.	apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40.	answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41.	identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total		20	30	-	-
Grand Total		110	150	-	90

Annexure: 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.

Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment:

- Confirm that the center is available at the same address as mentioned on SDMS or SIP
- Check the duration of the training.
- Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 is for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

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6. Method for assessment documentation, archiving, and access
 - Hard copies of the documents are stored
 - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
 - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

On the Job:

1. Each module (which covers the job profile of Mechanical Engineering and Plumbing General Manager (Electronics)) will be assessed separately.
2. The candidate must score 50% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and performing Soft Skills effectively:
 - Videos of Trainees during OJT
 - Answer Sheets of Question Banks
 - Assessing the Log Book entries of Trainees at Employer location
 - Employer Performance Feedback.
4. Assessment of each Module will ensure that the candidate is able to:
 - Understand the importance of understanding production requirements.
 - Understand the practical aspect of the process used on the Assembly line.
 - Basic health and safety practice.

Annexure: 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
National Occupational Standards (NOS)	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.
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