सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
DEVELOPMENT COMMISSIONER
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES

MSME TECHNOLOGY CENTRE

QUALIFICATION FILE

Assistant Electrician (Domestic cum Industrial)

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

☒ Up skilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

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

NCrF/NSQF Level: 3.0

Submitted by:

MSME TECHNOLOGY CENTRE
O/o DC MSME, Ministry of Micro, Small and Medium Enterprises
Govt. of India
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New Delhi- 110108
Contact No. +91-674-2654700,
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Table of Contents

Section 1: Basic Details

1.	**Qualification Name**	**Assistant Electrician (Domestic cum Industrial)**	
2.	**Sector/s**	**Power**	
3.	**Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM**	**NQR Code & version of existing/previous qualification:** *(change to previous, once approved)* **QG-03-PW-02422-2024-V1-MSME**	**Qualification Name of existing/previous version:** **Domestic cum Industrial Electrician (DIE)**
4.	**a. OEM Name** **b. Qualification Name** (*Wherever applicable)*	**NA** **-**	
5.	**National Qualification Register (NQR) Code & Version** (*Will be issued after NSQC approval)*	QG-03-PW-02422-2024-V1-MSME	**6. NCrF/NSQF Level: 3.0**
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**	Learners who attain this qualification are competent to carry out electrical installation, maintenance at domestic and industrial site. Learned candidates are qualified to work as Assistant Electrician. Qualified learner can also start their own electrical workshop or choose to be an entrepreneur.	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	a. Entry Qualification & Relevant Experience:	

S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	10 pass	No experience required
2	Previous relevant Qualification of NSQF Level 2	3 year relevant experience
3	Previous relevant Qualification of NSQF Level 2.5	1.5 year relevant experience

		b. Age: 15 years
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**

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)
Classroom (offline)	**80**	**340**	**60**	**-**	**480**
Online	**120**	**-**	**-**	**-**	**120**
Total	**200**	**340**	**60**		**600**

(Refer Blended Learning Annexure for details)

14	**Aligned to NCO/ISCO Code/s***(if no code is available mention the same)*	***7411.01/ Electrician - General***
15	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	***Professional/Career Progress:*** *Assistant Electrician* ➔ *Electrician* **Academic *Progress:*** *Assistant Electrician (Domestic cum Industrial)* (NCrF/NSQF Level 3) ➔ Electrical Equipment Repair and Maintenance (NCrF/NSQF Level 4.0)
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: As per govt. Norms.**	
19	**How Participation of Women will be Encouraged**	Seats are reserved as per government Norms.	
20	**Are Greening/ Environment Sustainability Aspects Covered** *(Specify the NOS/Module which covers it)*	☒ **Yes** ☐ **No** **The said aspect covered in the Module Name Employability Skills**	
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: Sh. Vijay Mahipatrao Bankar** **Contact No. +0755 3501078** **Email-msmetcab@gmail.com**	
23	**Final Approval Date by NSQC: 30.04.2024**	**24. Validity Duration: 3years**	**25. Next Review Date: 30.04.2027**

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/NS QF 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	Acquire the concepts of Basic Electrical	MSME/DIE/01 & 1.0	**Core**	**3.0**	**2**	**50**	**-**	**10**	-	**60**	**100**	**-**	-	-	**100**	
2	Measure Electrical Parameters (Voltage, Current, Power etc.)	MSME/DIE/02& 1.0	**Core**	**3.0**	**3**	**30**	**50**	**10**	**-**	**90**	**100**	**100**	-	-	**100**	
3	Prepare for Domestic and Industrial Electrical Wiring	MSME/DIE/03& 1.0	**Core**	**3.0**	**6**	**30**	**140**	**10**	**-**	**180**	**100**	**100**	-	-	**100**	
4	Perform Transformer Testing and Maintenance	MSME/DIE/04& 1.0	**Core**	**3.0**	**3**	**20**	**50**	**10**	**-**	**90**	**100**	**100**	-	-	**100**	
5	Power Equipment Testing and Maintenance	MSME/DIE/05& 1.0	**Core**	**3.0**	**3**	**20**	**60**	**10**	**-**	**90**	**100**	**100**	-	-	**100**	
6	Repair and Maintenance of Electrical Machines	MSME/DIE/06& 1.0	**Core**	**3.0**	**2**	**20**	**30**	**10**	**-**	**60**	**100**	**-**	-	-	**100**	
7	Employability Skills	MSME/ES/01	**Non-Core**	**3.0**	**1**	**30**	**-**	**-**	**-**	**30**	**100**	**-**	-	-	**100**	
Duration (in Hours) / Total Credit / Marks					**20**	**200**	**330**	**60**	**-**	**600**	**700**	**400**	**-**	**-**	**700**	

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)*

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)*

Assessment - Minimum Qualifying Percentage:

Specify any one of the following:

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

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

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.)*

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Diploma/Degree in Electrical Engineering or equivalent with Practical skills and knowledge required in the relevant job role at least one level higher i.e level 3.5 and above in related field and minimum 2 years of experience in Tool Room/Technology Centre of MSME or any reputed industry will become a trainer, or in accordance with the ToT guideline of NCVET.
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Degree in Electrical Engineering or equivalent with 3 to 5 years of experience in Production/Training/Design Department from Tool Room/Technology Centre of MSME or any reputed industry will become as a Master Trainer, or in accordance with the ToT guideline of NCVET.
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**	Yes

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Diploma/Degree in Electrical Engineering or equivalent with 3 years of experience in Production/Training/Design Department from Tool Room/Technology Centre of MSME or any reputed industry. Only (ToA) certified assessors will be able to conduct the assessments.
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Degree in Electrical Engineering or equivalent with 5 years of experience in Production/Training/Design Department from Tool Room/Technology Centre of MSME or any reputed industry.
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Post Graduate in the relevant discipline with minimum 5 years of experience in Production/Training/Design Department from Tool Room/Technology Centre of MSME or any reputed industry.
4.	**Assessment Mode** *(Specify the assessment mode)*	**Blended Type (Online+Offline)**
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,** India Skills Report 2023, "Roadmap to India's Skills and talent Economy 2030" "Construction" and "Real Estate Sector"
2.	**Latest Market Research Reports or any other source (not older than 2years) (Yes/No):** No
3.	**Government/Industry initiatives/requirement (Yes/No):** Yes
4.	**Number of Industry validation provided:** 46
5.	**Estimated nos. of persons to be trained and employed:** Approx. 500 per year
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

1.	**Annexure:** NCrF/NSQF level justification based on NCrF level/NSQF descriptors *(Mandatory)*	*Annexure-I*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Annexure-II*
3.	**Annexure:** Industry Validations Summary	*Annexure-III*
4.	**Annexure:** Training & Employment Details	*Annexure-IV*
5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	*Annexure-V*

6.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Annexure-VI*
7.	**Annexure:** Assessment Strategy *(Mandatory)*	*Annexure-VII*
8.	**Annexure:** Acronym and Glossary *(Optional)*	*Annexure- VIII*
9.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*NA*
10.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Annexure- IX*
11.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*This aspect mentioned in point no. 15*
12.	**Supporting Document:** Occupational Map *(Mandatory)*	*Annexure-X*
13.	**Supporting Document:** Assessment SOP *(Mandatory)*	*Annexure- XI*
14.	Any other document you wish to submit:	*NA*

Annexure I: 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	Installation of electrical items. Assembly, testing, repair & maintenance of electrical machines and installations. Setup own enterprise for service and manufacturing.	An electrician works in four kinds of assignments- installation, repair & maintenance, servicing and manufacturing. The environment in which an electrician works is familiar and predictable. Electrician is highly in demand in construction sector. As such there are plenty of jobs available but an electrician should be equipped to take up the job and accomplish it in a time bound manner. For this he needs to have thorough knowledge of domain of work and should execute the job to the satisfaction of the client.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	Factual knowledge of the various principles, processes, design considerations, specifications and formulas required for practices of an electrician. Construction and operating principle of electrical household appliances. Working principle and designing of transformers. Construction and working principle of automatic, auto cut voltage stabilizer, UPS and inverter. Construction and operating principle of generators and motors.	An electrician has to be abreast with the current trends in the industry. This helps to select products which are aesthetically suitable and economically efficient. An electrician has to know the quality of various products available in the market and should suggest the client on cost saving without compromising on quality. In problem solving situations an electrician works on the observations made. Here an electrician should be able to use his logical approach to arrive at the root cause. An entrepreneur besides having knowledge of above should also have knowledge of project building and product planning.	3

Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Skills that are required by an electrician include measuring skills, winding, assembly, installation, testing, repair and maintenance.	The range of applications in which an electrician works is narrow and repetitive. Proper handling of tools and equipments is essential for an electrician. An electrician should also be alert in case of any accident and should handle the situation accordingly. Job holder may have to generate bill of materials to handover it to his client. An electrician should be able to read building drawings so as to plan the placement and routing of cables and accessories. Once installed an electrician should carry out testing. An electrician should be careful of safekeeping of tools and materials. An entrepreneur would need additional skills like planning, scheduling, budgeting, team management etc.	3
Broad Learning Outcomes/Core Skill	Do basic mathematical calculations. Handle tools and equipments appropriately. Communicate in local language. Understanding of the social and political environment of work.	In the occupation of electrician proper handling of tools is critical in preventing accidents. Proper handling of tools also brings efficiency in the job. To get contracts regularly an electrician should be in touch with the contractor and needs to build rapport with the contractor. The electrician may sometimes need to directly communicate with the client bypassing the contractor to understand project requirements. For this an electrician needs to be able to communicate and also needs to be aware of the social, political and natural environment.	3
Responsibility	Responsible for his own work.	Most of the time a contractor takes an electrical contract from either an owner of a house or from a builder. The contractor employs an electrician to do the job. The electrician however accomplishes the job on his own. An entrepreneur on the other hand is responsible to give quality products and services delivery on time.	3

Annexure II: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment for Batch Size: 20

S. No.	Tools / Equipment Name	Specification	Quantity for specified Batch size
1	Blow Lamp	Industry Standard	5
2	Pipe Cutter		5
3	Reamer		5
4	Files		5
5	Spanner Sets- Double Ended Spanner, Ring Spanner, Box Spanner, Slide Wrench Spanner		5
6	Machinery Drill Bit		5
7	Crimping Tools		5
8	Measuring Tape		5
9	Pulley Puller		5
10	Bearing Puller		5
11	Ship Straights		5
12	Phase Tester Or Neon Tester		5
13	Mallet		5
14	Wire Stripper And Cutter		5

15	Soldering Iron		5
16	Soldering Station		5
17	Desoldering Pump		5
18	Tweezer		5
19	Brushes		5
20	Magnifying Glass		5
21	Screw Driver		5
22	Pliers		5
23	Electrician Knife		5
24	Hammers		5
25	Hand Saw		5
26	Cold Chisel		5
27	Try Square		5
28	Wood Chisel		5
29	Poker		5
30	Hand Drill Machine		5
31	Rawl Plug Tool		5
32	Hacksaw		5

33	Files		5
34	Ratchet Bit Brace		5
35	Plumb Bob		5
36	Pipe Vice		5
37	Pin Vice		5
38	Bench Vice		5
39	Hand Vice		5
40	Centre Punch		5
41	Pipe Wrench		5
42	Vernier Calipers		5
43	Screw Gauge (Micrometer)		5
44	Measuring Scales		5
45	Standard Wire Gauge (SWG) Instruments		5
46	Galvanometers		1
47	Ammeters And Volt Meters		1
48	Watt Meter		1
49	Frequency Meter		1
50	Power Factor Meter		1

51	Current Transformers		1
52	Potential Transformers		1
53	Megger		1
54	Multimeter		1
55	Variacs or Auto Transformers		1
56	DC Regulated Power Supply		1
57	CRO (Cathode Rays Oscilloscope)		1
58	Digital Multimeter		1
59	Digital Volt Meter And Ammeters		1
60	LCR Meter		1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. *Smart Board*
2. *Practice Exercise*
3. *Projector etc.*

Annexure III: 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	B. L. AGRO INDUSTRIES LTD	ASHISH KUMAR SAXENA	CHIEF MANAGER	PARSAKHERA, BAREILLY	9258211462	5S@BLAGRO.ORG	
2	DIGITECH CONTROLS & SYSTEMS	MR. AJIT GATE	CEO-FOUNDER	NDA RD, PANDURANG INDUSTRIAL AREA, SHIVANE, PUNE, MAHARASHTRA 411023	9850621072	DIGITECHCONTROLSYSTEMS@GMAIL.COM	
3	ELETECH LAB INSTRUMENT	KRISHAN KUMAR	PROPRIETER	1190, 1ST FLOOR, BENGALI MOHALLA, AMBALA CANTT-133001, HARYANA	9034101751	INFOELETECHAMBALA@GMAIL.COM	
4	ELTKO LABS PRIVATE LIMITED	KRISHAN KUMAR	DIRECTOR	615, UNNAMED ROAD, RAM KRISHAN COLONY, AMBALA CANTT-133001	9034101751	ELTKOLABS@GMAIL.COM	
5	EURON COMMUNICATIONS PRIVATE LIMITED,	ASHOK VERMA	DIRECTOR	PLOT NO. - 2, OASIS CITY GANGAPUR ROAD, RUDRAPUR, U.S. NAGAR (UTTARAKHAND).	8171717155	EURONCOMMUNICATIONS@GMAIL.COM	
6	EXELIQ TECH SOLUTIONS,	PRINCE AGARWAL	DIRECTOR	RZ-26-P-39, INDRA PARK, PALAM COLONY, SOUTH WEST DELHI, DELHI-110045,	8285017133	INFO@EXELIQSOLUTIONS.COM	
7	HI TECH SYSTEM	NAVNEET AGGARWAL	PROPRIETOR	1217/18, OUTER LARGE ROAD,	9034184735	SALES.HITECHSYSTEM@GMAIL.COM	

				AMBALA CANTT - 133001, HARYANA			
8	JBM AUTO LIMITED, FARIDABAD (JBM GROUP)	RAJEEV KUMAR SHARMA	AVP - HEAD SKILL DEVELOPMENT, JBM GROUP	PLOT NO. 16, SECTOR 20 B, FARIDABAD - 121007 (HR)	8860281177	RAJEEV.SHARMA@JBMGROUP.COM	
9	KUNWAR CONSTRUCTION	SH. RAVI KUNWAR	PROPRIETER	NEAR SHIV MANDIR, RAI, DHARCHULA ROAD, PITHORAGARH, DIST.- PITHORAGARH	8449631734	RAVIKUNWAR11@GMAIL.COM	
10	MASCOT FASTNERS PVT LTD	PANKAJ DAS	ACCOUNT	PLOT NO B-155, ESIPL, SITARGANJ	7500878668		
11	SHRIRAM SOLVENT EXTRACTION PRIVATE LTD	SURENDRA KUMAR	MANAGER	VILL-DHYANNAGAR, KASHIPUR ROAD JASPUR (U.S NAGAR), UTTARAKHAND-244712	9837457434	SURENDRAKUMAR@SRSE.IN	
12	SANJAY TECHNO PRODUCTS PVT LTD	V. P. MANUFACTURING	PROPRIETOR	MIDC AURANGABAD WALUJ	915888090	KEMANT.CHAUDHARI@SANJAYTRCHNOPRODUCTS.IN	
13	MADURA DIE CAST PVT LIMITD	MADHURA	CEO	SHENDRA AURANGABAD	9422204622	MADHRADIECAST@GMAIL.COM	
14	MIS ANNA BLOCK BORING CENTER	MASIT KHAN	PROPRIETOR	MIS ANNA BLOCK BORING CENTER	9767375083		
15	M/S HR INDUSTRIES	VASPUT JAUGELE	PROPRIETOR	SAJAPUR, AURANGABAD	9637384737		
16	GAYATRJ AUTO COMPONENTS, AURANGABAD	MR. RANJEET METE	MANAGER	AURANGABAD	7385613842	INFO@GAYATRIAUTO.IN	
17	SHARP TOOLS	MAHESH DORLE	SR. MANAGER		9689574563		
18	CHANCHAL ENGINEERING WORKS AURANGABAD	DRYHAEBHWAR	PROPRIETOR	AURANGABAD	9765499939	CHANCHALENGINEERINGWORKS@GMAIL.COM	
19	AKSHARA ENGINEERING WORKS	SHIVAJI GAIKWAD		WALUJ MIDC AURANGABAD	9096420857		

20	ARUSHI ENGINEERING AND BREEZING	VIJAYA PARADE	MANAGER	WALUJ MIDC AURANGABAD	9049596736		
21	SR INDUSTRIES AURANGABAD	RAJENDRA SAUDAGAR MARE	SR. MANAGER	AURANGABAD	8698145607		
22	DEVA ENGINEERING AURANGABAD	ASHOK MOTINAM VEOR	SR. MANAGER	AURANGABAD	8459567793		
23	MAULI PATTERN AURANGABAD	MR. PANCHAL	PROPRIETOR	AURANGABAD	9673067755		
24	NAVARATNA INDUSTRIES			WALUJ MIDC AURANGABAD			
25	PRANAW ENTERPRISES AURANGABAD	PANDRINATH DEVKAR	PROPRIETOR	AURANGABAD	9371671146	PRANAVENT@GMAIL.COM	
26	R.P INDUSTRIES	PRASHANT PATIL	CEO	MIDC CHIKATHANA AURANGABAD	8007222251	PRASHANTPATIL@GMAIL.COM	
27	TECHNO MOULD SOLUTION	MR. PANDA	PROPRIETOR	AURANGABAD	7774077907	TECHNOMOULD.SOLUTIONS@GMAIL.COM	
28	SPECIAL PRECISION	ASHIWINI TADHAV	PROPRIETOR	AURANGABAD		SPECIALASHIWIN@GMAIL.COM	
29	SURAJ TOOLS AND ENGINEERING WORKS	DEIM	CEO	MIDC CHIKATHANA AURANGABAD	7447375273	SURAJTOOLS@GMAIL.COM	
30	PARASON MACHINERY (INDIA) PVT LTD	GHAHU	GM	AURANGABAD	9325202860	AMOIL.MOGAL@PASASEN.COM	
31	PADMA INDUSTRIES	VITTHALKADOM	CEO	MIDC AURANGABAD	9421688212	VITTHALKADOM2525@GMAIL.COM	
32	VANI ENGINEERING CO. PVT LTD	SUBH	GENERAL MANAGER	AURANGABAD	9730729991	SKAPE@GMAIL.COM	
33	GLANCE ENGINEERING -6 PVT.LIMITED CHIKALTHANA	SUBH SK	GENERAL MANAGER	CHIKALTHANA	9730729991	S.KALE@GMAIL.COM	
34	JAI BHAVANI ENGINEERING WORKS		GENERAL MANAGER		9370251815		
35	S N ENGINEERING WORKS	SNEHA	CEO	CH SAMBHAJINAGAR	9822859974	SNEHAG858@GMAIL.COM	
36	R N INDUSTRIES	TLC	CEO	KAIAGRAM, AURANGABAD	9890718928	R.N.INDUSTRIES01@GMAIL.COM	

37	SWAGATI ENGINEERING WIS2		CEO	CHIKALTHNA, AURANGABAD	9763714369	SWAGATIENGG@GMAIL.COM	
38	IDEAL ENTERPRISE		GENERAL MANAGER	CHIKALTHANA AURANGABAD	9763785199	IDEAL1993@GMAIL.COM	
39	INDOTURAN INDUSTRIES	MR. VISHAL SHINDHE	PROPRIETOR	MIDC AURANGABAD WALUJ	9595280808		
40	MIKRONIX GAUGES PVT LTD		MD	B-25 MIDC, CHIKALTHANA, CH. SAMBHAJINAGAR	9822004674	MGPLAY@GMAIL.COM	
41	INDEXABLE CUTTING TOOL	TOR	PROPRIETOR	BAJAJNAGAR, AURANGABAD			
42	CREATIVE CASTING INDUSTRIES	MR. SANJAY RANDIRE	PARTNER	K-30, MIDC WALUJ, AURANGABAD	9011001671	CREATIVECAST@REDIFFMAIL.COM	
43	PYRAMID INDUSTRIES	MR. RAJENDRA KALE	PROPRIETOR				
44	RMG INDUSTRIES	RAOUAL	CEO	MIDC AURANGABAD WALUJ	9766699611	EAJUQANDA@RMGINDUSTRIES.COM	
45	ALLWIN UNITED ASSOCIATION PVT.LTD	MI PANKAJ	DIRECTOR	ALLWIN UNITED ASSOCIATION PVT.LIMITED	7588537412	CONTACT@TECHNOCADDAPL.COM	
46	LAXMI ENTERPRISES	RANJANA BHAYYA SAHEB PAWAR	MI.MANAGER	SAINAGAR GHANEGAON MIDC WALUJ, AURANGABAD	7387431128		

Annexure IV: 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
2024-25	500	400	50	40	-	-
2025-26	750	600	75	60	-	-
2026-27	1000	800	100	80	-	-

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
1.0	2020-21	0	0	0	0	0	0	0	0	-	-	-	-
1.0	2021-22	10	10	10	8	0	0	0	0	-	-	-	-
1.0	2022-23	19	19	19	15	0	0	0	0	-	-	-	-

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. Fee based Training Program under the Ministry of MSME.

Content availability for previous versions of qualifications:

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

Languages in which Content are available:

English

Annexure V: 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/wp-content/uploads/2023/01/Guidelines-for-Blended-Learning-for-Vocational-Education-Training-Skilling.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 with 2D and 3D animation Self-Learning Videos /Broadcasts/Mobile Learning/Curated Digital content	40:60

2	☒ Imparting Soft Skills, Life Skills, and Employability Skills/Mentorship to Learners	Self-Learning Videos, Broadcasts, Mobile Learning, Curated Digital content	40:60
3	☒ Showing Practical Demonstrations to the learners	Annexure II, Video Content, E-Resource library	100:0
4	☒Imparting Practical Hands-on Skills/Lab Work/Workshop/Shop floor training	Annexure II	100:0
5	☒Tutorials/Assignments/Practice	Online Question Bank, Mobile Quick test app, MCQ based tests, Practical Test on Equipment	40:60
6	☒Proctored Monitoring/Assessment/Evaluation/Examinations	Assessment engine for Essays, Up-loadable file examinations, Mock test sessions	50:50
7	☒On the Job Training (OJT)	Live Project on PCB Machines, Measuring Instruments at concern Industry/Institution	NA

Annexure VI: 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
NOS/Module: **MSME/DIE/01**	PC.1 Observe safety precautions while working with electricity. PC.2 Describe advantage of electricity.	100	-	-	-

Acquire the concepts of Basic Electrical	PC.3 Explain Ohm's law. PC.4 Explain DC series and DC parallel circuits and its utility in electrical technology. PC.5 Measure power and consumed electrical energy in any electric load. PC.6 Describe basic principles of electro statics and electro dynamics. PC.7 Describe properties of the natural magnet and electro magnet. PC.8 Define magnetic flux, leakage flux, magnetomotive force, magnetizing force and flux density. PC.9 Define hysteresis losses and eddy current losses in magnetic materials. PC.10 Explain the working principles of cells and batteries. PC.11 Identify the direction of mechanical force between current carrying conductor and magnetic field. PC.12 Explain fundamental of AC, sinusoidal curve, alternating quantity, cycle, time period, frequency, instantaneous value, maximum value, average value, RMS value form factor. PC.13 Explain behavior of AC with resistive load, inductive load and capacitor load. PC.14 Describe star and delta connection in three phase system. PC.15 Identify phase and neutral in three phase four wire system. PC.16 Describe different types of electrical engineering materials and their uses.				
NOS/Module: **MSME/DIE/02**	PC.1 Explain safety precautions in handling tools and equipment. PC.2 Identify the various tools used by an electrician. PC.3 Select the proper tool.	100	100	-	-

Measure Electrical Parameters (Voltage, Current, Power etc.)	PC.4 Use and maintain the tools used by an electrician. PC.5 Give the specification of tools for different applications. PC.6 Measure the length and diameter with Vernier Calipers and Micrometer. PC.7 Select and use AC/DC voltmeter, Ammeter as per requirements. PC.8 State the working principle of CT & PT and describe their use. PC.9 Measure power using wattmeter. PC.10 Describe the use of DC regulated power supply, auto transformer/variacs. PC.11 Use electronic measuring instruments such as multimeter and CRO etc. for electrical measurements.				
NOS/Module: **MSME/DIE/03** Prepare for Domestic and Industrial Electrical Wiring	PC.1 Identify different types of wire joints and prepare different wire joints. PC.2 Describe the specifications of different components and materials used in house wiring installation. PC.3 Explain the different type of wiring system. PC.4 Draw the different types of electrical wiring circuits. PC.5 Choose proper type of wiring system as per customer's requirements PC.6 Perform power wiring for industrial systems. PC.7 Design and wire up simple electrical circuit in the house. PC.8 Estimate the wiring installation in a house. PC.9 Calculate proper size of wire as per load connected in the wiring installation. PC.10 Explain the different types of fuses and calculate the size of fuse wire.	100	100	-	-

	PC.11 Explain the electrical earthing system and its need for wiring installation. PC.12 Draw a wiring diagram for a house. PC.13 Test the wiring installation with megger. PC.14 Identify the fault in wiring installation and repair the fault. PC.15 Identify the different types of power wiring accessories. PC.16 Describe the different types of substations. PC.17 Explain the provisions of Indian Electricity Rules 1956. PC.18 Perform electrical shock treatment. PC.19 Understand the Calculation of wire selection. PC.20 Understand types component used according to load.				
NOS/Module: **MSME/DIE/04** Perform Transformer Testing and Maintenance	PC.1 Draw the symbols, abbreviations used in transformer designing. PC.2 Define magnetic flux, leakage flux, magnetizing force and flux density. PC.3 Explain working principle of a simple transformer. PC.4 Define the hysteresis losses and eddy current losses in magnetic material. PC.5 Describe the properties of core material and their types. PC.6 Select the proper core material size & shape. PC.7 Explain basic considerations of winding. PC.8 Explain characteristics of super enamel copper wire. PC.9 Select the proper size of copper conductor for a transformer. PC.10 Select the proper insulation for winding a coil. PC.11 Wind a coil for required transformer and assemble core along with coil. PC.12 Explain different tests required for a transformer.	100	100	-	-

	PC.13 Explain temperature rise and its effect on the performance of transformer. PC.14 State the design equations of the transformer. PC.15 Design the main transformer up to 5KVA. PC.16 Design the transformer for voltage stabilizer. PC.17 Operate, repair and maintain the winding machine.				
NOS/Module: **MSME/DIE/05** Power Equipment Testing and Maintenance	PC.1 Design, manufacture of multi tapping auto transformer. PC.2 Explain construction and working principle of auto cut voltage stabilizer. PC.3 Assembly of auto cut voltage stabilizer circuit using DPDT switch. PC.4 Fault finding and repairing of auto cut voltage stabilizer. PC.5 Auto transformer designing for automatic voltage stabilizer. PC.6 Working principle of automatic voltage stabilizer using DC supply. PC.7 Setting or alignment of automatic voltage stabilizer with variacs. PC.8 Fault finding and repairing of automatic voltage stabilizer. PC.9 Explain different types of power rectification circuit with silicon diodes. PC.10 Explain different types of power rectification circuit with different types of filter circuits. PC.11 Explain definitions of cell and battery, primary battery, secondary battery. PC.12 Reconditioning of lead acid battery. PC.13 Design and assemble different types of battery charger. PC.14 Fault finding and repairing of different types of battery charger. PC.15 Explain circuit diagram of an UPS.	100	100	-	-

	PC.16 Repair and maintenance of UPS. PC.17 Explain of basic working principle of inverter. PC.18 Explain different type of 500W MOSFET based inverter circuit with charger. PC.19 Assemble different types of inverter circuit with charger. PC.20 Install different types of inverter circuit with charger. PC.21 Fault finding of different types of inverter circuit with charger.				
NOS/Module: **MSME/DIE/06** Repair and Maintenance of Electrical Machines	PC.1 Explain the construction and operating principle of DC generator. PC.2 Explain the construction and operating principle of DC motor. PC.3 Carry out, servicing and repair of DC generators. PC.4 Carry out, servicing and repair of DC motors. PC.5 Explain construction, operating principle of transformer. PC.6 Explain construction and operating principle of alternator. PC.7 Repair faults in alternator and install the alternator. PC.8 Explain construction and operating principle of three phase induction motor. PC.9 Test and identify the terminal of a DC generator. PC.10 Test and identify the terminal of a DC motor. PC.11 Test and identify the terminals of three phase induction motor. PC.12 Test a three-phase induction motor for insulation resistance and earth effectiveness. PC.13 Connect with suitable starter, to start and run the DC motor. PC.14 Connect with suitable starter to start and run three phase induction motor.	100	-	-	-

	PC.15 Explain the construction, operating principle of different single phase or fractional horsepower (HP) motors. PC.16 Identify the parts for repairing and servicing the fractional HP motor. PC.17 Troubleshoot different type of starter for DC motor.				
NOS/Module: **MSME/ES/01** Employability Skills	PC.1 Discuss the importance of Employability Skills in meeting the job requirements. PC.2 Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. PC.3 Show how to practice different environmentally sustainable practices. PC.4 Discuss 21st century skills. PC.5 Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. PC.6 Use appropriate basic English sentences/phrases while speaking. PC.7 Demonstrate how to communicate in a well -mannered way with others. PC.8 Demonstrate working with others in a team. PC.9 Show how to conduct oneself appropriately with all genders and PwD PC.10 Discuss the significance of reporting sexual harassment issues in time	100	-	-	-

	PC.11 Discuss the significance of using financial products and services safely and securely. PC.12 Explain the importance of managing expenses, income, and savings. PC.13 Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws. PC.14 Show how to operate digital devices and use the associated applications and features, safely and securely. PC.15 Discuss the significance of using internet for browsing, accessing social media platforms, safely and Securely. PC.16 Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges. PC.17 Differentiate between types of customers. PC.18 Explain the significance of identifying customer needs and addressing them. PC.19 Discuss the significance of maintaining hygiene and dressing appropriately. PC.20 Create a biodata PC.21 Use various sources to search and apply for jobs PC.22 Discuss the significance of dressing up neatly and maintaining hygiene for an interview PC.23 Discuss how to search and register for apprenticeship opportunities				
	Total Marks	**700**	**400**	**-**	**-**

Annexure VII: 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 are assigned to the MSME NSQF Assessment Agency via email for the assessment.

- MSME NSQF Assessment Agency sends the assessment confirmation to respective TC.
- MSME NSQF Assessment Agency deploys the certified Assessor for executing the assessment at respective TC via online / offline mode.
- MSME NSQF Assessment Agency & respective TC Internal Assessment cell monitors the assessment process & records.

2. Testing Environment:

- MSME NSQF Assessment Agency confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- MSME NSQF Assessment Agency & respective assessor confirms that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Each TC Submits the Question Bank for the individual subject Theory & Practice separately, submits to MSME NSQF Assessment Agency and it is verified by the MSME NSQF Assessment Agency Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are well qualified & trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.
- Assessment Photographs are shared with the MSME NSQF Assessment Agency & are also with the respective TC.

5. Method of verification or validation:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.

6. Method for assessment documentation, archiving, and access:

- The Assessment records are shared with MSME NSQF Assessment Agency & also stored at respective TC.
- Assessor fills the assessment report and shares with the MSME NSQF Assessment Agency.

On the Job Training:

- Each module will be assessed separately.
- The candidate must score 60% marks to successfully complete the OJT.
- Learner will be assessed on the basis of OJT report followed by Viva
- Assessment will ensure that the Learner is able to:
    - ✓ Effective engagement with the customers / Subordinates and team
    - ✓ Understand the working of various tools and equipment
    - ✓ Understand the working environment of the industry

Annexure VIII: 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 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.
Short Term Training (STT)	STT/ Short -term skilling means any vocational training program undertaken for less than a year (Theory + Practical + OJT). https://ncvet.gov.in/sites/default/files/NCVET.pdf