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

Please refer *Guidelines for STT/LTT/Apprenticeship/OEM Qualification File*

Technician - Machine Maintenance (Mechatronics)

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

☐Upskilling☐ Dual/Flexi Qualification ☐ForToT☐ For ToA

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

NCrF/NSQF Level: 4.5

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

A-Wing, 7th Floor, Nirman Bhawan, Maulana Azad road

New Delhi-110108

Contact No. +91-674-2654700

Email-cttc@cttc.gov.in

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Section 1: Basic Details

1.	**Qualification Name**	**Technician - Machine Maintenance (Mechatronics)**	
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)* **-**	**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)*		**6. NCrF/NSQFLevel: 4.5**

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**	This is a course specially designed to upgrade the Skills of ITI passed in the field of Industrial Maintenance to deal with the technological change, in which learners tend to get excellent career opportunities in the field of Machine maintenance. ● Learners who attain this are competent in Machine Maintenance and can get a job as Maintenance Technician. ● Qualifying learners attain skills to work in the Maintenance department to carry out different types of Maintenance work for various machines & equipment used in Industry. ● Qualified learners will also become an entrepreneur.	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	a. Entry Qualification & Relevant Experience: Electrical ● 10th + 2-year NTC/NAC in relevant trade*b. Age: Minimum 17 years ● 10th + 2nd year of 3 years Engineering Diploma* ● 8th + 2-year NTC/NAC in relevant trade* 3 year Relevant Experience ● Previous NSQF Levels 4 Relevant Experience in Years Nil ● Previous NSQF Levels 3.5 Relevant Experience in Years 1.5	
10.	**Credits Assigned to this Qualification, Subject to Assessment***(as per National Credit Framework (NCrF))*	**40**	**11. Common Cost Norm Category (I/II/III)** *(wherever applicable)***: I**

<table>
<tr><td>12.</td><td>Any Licensing requirements for Undertaking Training on This Qualification(wherever applicable)</td><td>NA</td></tr>
<tr><td>13.</td><td>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</td><td>☐Offline ☐Online ☒Blended
<table>
<tr><th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>OJT Recommended (Hours)</th><th>Total (Hours)</th></tr>
<tr><td>Classroom (offline)</td><td>84</td><td>810</td><td>180</td><td>-</td><td>1074</td></tr>
<tr><td>Online</td><td>126</td><td>-</td><td>-</td><td>-</td><td>126</td></tr>
<tr><td>Total</td><td>210</td><td>810</td><td>180</td><td></td><td>1200</td></tr>
</table>
(Refer Blended Learning Annexure for details)</td></tr>
<tr><td>14.</td><td>Aligned to NCO/ISCO Code/s(if no code is available mention the same)</td><td>7412.0801 (Electrical Mechanics and Fitters)</td></tr>
<tr><td>15.</td><td>Progression path after attaining the qualification (Please show Professional and Academic progression)</td><td>Professional / Career Progress: Senior Technician → Supervisor

Academic Progress: Sr Technician in Machne Maintenance And Automation(NSQF Level 4.5)</td></tr>
<tr><td>16.</td><td>Other Indian languages in which the Qualification & Model Curriculum are being submitted</td><td>English and Hindi</td></tr>
<tr><td>17.</td><td>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</td><td>☐Yes ☒ No URLs of similar Qualifications</td></tr>
<tr><td>18.</td><td>Is the Job Role Amenable to Persons with Disability</td><td>☐ Yes ☒ No</td></tr>
</table>

		If "Yes", specify applicable type of Disability:	
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 is covered in the module name** Employability **skills.**	
21.	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools ☐ Yes ☒ No Colleges ☐ Yes ☒ No** **Subject to availability of resources.**	
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: 8th May 2025**	**24. Validity Duration: 3 YEARS**	**25. Next Review Date: 8th May 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*

SEMESTER-I

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	Single Line diagram with E-CAD	**MSME/ACCMM/01**	**Core**	**4.5**	**2**	**-**	**60**	**-**	**-**	**60**	**-**	**100**	**-**	**-**	**100**	
2	Transmission & Control	**MSME/ACCMM/02**	**Core**	**4.5**	**4**	**30**	**90**	**-**	**-**	**120**	**-**	**100**	**-**	**-**	**100**	
3	PLC Programming	**MSME/ACCMM/03**	**Core**	**4.5**	**3**	**-**	**90**	**-**	**-**	**90**	**-**	**100**	**-**	**-**	**100**	
4	Machine Maintenance (Electrical)	**MSME/ACCMM/04**	**Core**	**4.5**	**11**	**60**	**180**	**90**	**-**	**330**	**100**	**100**	**-**	**100**	**300**	
Duration (in Hours) / Total Credit / Marks					**20**	**90**	**420**	**90**	**-**	**600**	**100**	**400**	**-**	**100**	**600**	

SEMESTER-2

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 Machine Operation	**MSME/ACCMM/05**	**Core**	**4.5**	**4**	**30**	**90**	-	-	**120**	**100**	**100**	-	-	**200**	
2	Machine Maintenance (Mechanical)	**MSME/ACCMM/06**	**Core**	**4.5**	**12**	**60**	**210**	**90**		**360**	**100**	**100**	**-**	**100**	**300**	
3	Employability Skill	MSME/ES/ 04	**Non Core**	**4.5**	**4**	**120**	**-**			**120**	**100**	**-**	**-**	**-**	**100**	
Duration (in Hours) / Total Credit / Marks					**20**	**210**	**300**	**90**		**600**	**300**	**200**		**100**	**600**	

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)*
					date											

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:

Please specifyany 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 Mechanical Engineering or Equivalent with Practical skills and knowledge required in the relevant job role at least one level higher i.e level 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 Engineering (Mechanical/ Production/Manufacturing Technology) 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 Up skilling 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 Engineering (Mechanical/ Production/ Manufacturing Technology) 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 Engineering (Mechanical/ Production/ Manufacturing Technology) 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"
2.	**Latest Market Research Reports or any other source (not older than 2years) (Yes/No):** **Yes,** "Engineering and capital goods industry" (Feb-2023) by India Brand Equity Foundation –IBEF (Trust established by the Department of Commerce, Ministry of Commerce and Industry, Government of India
3.	**Government /Industry initiatives/ requirement (Yes/No):**Yes
4.	**Number of Industry validation provided:**30
5.	**Estimated nos. of persons to be trained and employed: 1000 approx**
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:** *NA* 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 Validation Summary	*Annexure-III*
4.	**Annexure:** Training & Employment Related	*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:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*NA*
9.	**Annexure:** Acronym and Glossary *(Optional)*	*Annexure VIII*
10.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Annexure IX*
11.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*This aspect is mention in point no 15.*
12.	**Supporting Document:** Occupational Map *(Mandatory)*	*Annexure-X*
13.	**Supporting Documents:** Assessment SOP(Mandatory)	*Annexure XI*
14.	**Any other document you wish to submit:**	*NA*

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	• Carryout different types of maintenance work maintaining all safety aspect • Perform installation of different types of machine as per instruction manual. • Operate Conventional Machines • Operate CNC Machines • Create and modify PLC program	• Job holders will perform repair & maintenance work of different machines and equipment like Conventional, CNC Machines, Air Compressor, Pump, etc by using different tools & equipments maintaining safety aspects, they can perform machine installation & fitting work. • Job holder will create PLC program & they are capable to modify PLC program. • Job holder can study and prepare different line diagrams. • Job holders are capable to perform mechanical & electrical maintenance work for machines & equipment.	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	• Knowledge about types of safety, hazards, safety signs & symbols • Thorough Knowledge on different types of maintenance activity • Describe tools & instruments used in maintenance activity	• Job holder will be able to explain different parts of the machine, function of different parts of a machine, application of precision measuring & marking tools & equipments, interpreting drawing, read & understand the machine manuals, basic knowledge of machining, Electrical Transmission systems, hydraulic & pneumatic, knowledge about check point at the time of m/c installation & machine installation, fastening device, basic fitting equipments used in pipe fitting, classification of pumps. • They will know method of maintenance, procedure of fault finding & its remedies, method of power transmission, type of lubricant & its	4.5

	• Knowledge on different types of operations that are performed in conventional & CNC machines • Knowledge about electrical tools & equipments & electrical maintenance activity • Thorough knowledge about leveling & alignment. • Capable to prepare logics/methods for PLC programming. • Gains knowledge on electrical, hydraulic & pneumatic systems related to maintenance.	application, maintaining m/c data card, maintenance record, preventive/schedule maintenance plan, changeable part specification etc. • Job holder will know the programming of PLC, they can explain CNC programming and different operations of conventional machines.	

Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	• Carry out maintenance and repairs on machines and equipments. • Dismantle, repair, re-assemble, install and do functions tests on machine components. • Plan jobs and do maintenance, troubleshoot, repair and carry out functions tests on mechanical components, and elaborate on the alternative solutions available. • Carryout machine installation. • Carryout maintenance work for machine utility. • Operate conventional machine tools. • Programming & operations of CNC machines. • Perform electrical wiring & maintenance of electrical equipments. • Programming & modifying PLC.	• Job holder will perform different type of maintenance work like preventive, scheduled & breakdown maintenance of different machines, they are capable to change different parts of machine, performing basic machining operation, maintenance in electrical parts of machine, leveling & alignment of the machine, fault finding & trouble shooting in machine. • They will be able to perform maintenance of Air compressor and Pump etc. • Job holder will be able to create & modify PLC program, they are capable to do PLC wiring. • Job holder will be capable to do monitoring & tests, they are capable to write programs for CNC machines & also perform maintenance work of CNC machines. • Job holders are capable to documents their work.	4.5
Broad Learning Outcomes/Core Skill	• Able to receive and pass information from and to authorized persons and seeking clarification from authorized persons where required. • Able to do basic arithmetic & geometrical calculations.	• Job holders is having good communication, team work capability, discipline & punctuality, they will be capable to perform basic arithmetic calculations, measuring techniques, maintaining accuracy, candidates must able to handle safety and firefighting equipment, they must have good housekeeping practice, they must have openness to learning, ability to do plan and organize own work area, identify & solving problems, they must be environmental conscious.	4.5

	• Be able to identify job site hazards like sharp edged heavy tools, gas cylinders, welding radiations, chemicals, fumes, obstructions in corridors, naked wires / cables etc.		
Responsibility	• Responsible for the completion of all maintenance service assigned by the supervisor in stipulated time. • Responsible to operate CNC & conventional machines. • Responsible to perform machine installation. • Responsible to program on PLC.	• Job holders will correctly diagnose a range of mechanical & electrical faults and plan a suitable course of action, they will perform the maintenance work as per course of action. • Job holders can assemble, modify and test mechanical & electrical components according to specifications. • They will be responsible to install machines & its components as per instructions. • They will prepare documents for the finished work.	4.5

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	Conventional Turning / Lathe Machine	Industry Standard	2

2	CNC Turning Machine with attachments		1
3	Conventional Milling		2
4	CNC Milling Machine with attachments		1
5	Conventional Drilling machine		1
6	Grinding Machine		1
7	Pedestal grinding machine		1
8	Desk top / Computer system With PLC software		20 seats
9	E-Cad software		20 seats
10	Bearing Assemble & disassemble trainer kit		1Set
11	Transmission control system trainer kit		1Set
12	**Pumps:** Centrifugal pump,Gear pump,Vane pump,Screw pump etc.		1 Nos each
13	Hydraulic trainer kit		1 Set
14	Pneumatic trainer kit		1 Set
15	Air compressor & dryer with all accessories		1 Set
16	**Gears & mechanism:** Spur,Hellical,Worm,Hearing Bone.Bevel,Cluster,Rack & penion,Lead screw & Box nut,Chain & sprocket etc.		1 Set
17	**Belt:** V,Flat,Timer,Rope,Toothed,Link Belt Etc.		1 Set

18	**Digital Laser Alignment Kit**		1 Set
19	**AC and DC machines** Single phase induction motors,Three phase induction motor,Special motors(servo,stepper&BLDC),Series,shunt and compound motors,single phase transformer,three phase transformer(step up,Step Down & Isolation)		1 Set
20	**Electrical Hardware components & Curcuit Breakers** Contactor,Relay,OLRC,MPCB,RCCB.MCB,Different types of switches,sensor,timer.		1 Set
21	**Diffenet types of cable with lugs**		1 Set
22	**Elctronics componets** Resistor,capacitor,diode,transistors,IC,rectifier,LED,MOSFET,IGBT.		1 Set
23	**Measuring Instruments:** **Mechanical-**Vernier Caliper, Micrometer,Dial Indicators (Lever type & Plunger type), Engineering steel rules, , Try square. Electrical-Multimeter,Volt meter,Ammeter,Frequency Meter,Megger,Power factor meter,watt meter,Earth tester,RLC meter.		1 Set
24	**Cutting tools:** **Turning:** Single Point brazed turning tool, Knurling and threading tools. **Milling:** End mill, Face mill.		1 Set
25	**Cutting Inserts:** CNMG, VNMG, DNMG, WNMG, CCMT and TCMT		1 Set
26	**Tool Holders:** Turning tool holders for OD/ID turning, Profile turning, Grooving/Parting, Drilling, Boring, Threading, Sleeves, Set of Spring collets (ER-16, ER-25,ER-32, ER-40) and Collet adopters. BT-40 for milling		1 set

27	**Hand Tools:** Centre punches, Hammers, Combination Plier, set of number punches, set of double ended spanners, set of box spanners with ratchet handle, Adjustable spanner, set of screw drivers, Nylon / Soft hammer, set of hexagonal Allen keys, cutting files: flat, round, half round, square and triangular.Set of Crimping tools,Set of bearing pullers.		1 set
28	**Others Miscellaneous items for workshop / Lab :**Industry hand gloves, Apron, Safety goggles, Bench vice, Magnetic stand for dial indicators, Spring dividers, Angle Plates, Vice mounted tables, Scrap box, Tool storage trolley, Set of soft jaws, Power Saw, Surface plate, Oil stone , Hand pallet truck and First aid kit.		1 set
29	**General Equipment for Classroom**: White Board, Smart Board, Duster, Marker, Multimedia /LCDProjector, Audio Video Aids,Pen drive and Practice exercise etc,.		1 set

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)*
01	Sigma Electric Manufacturing Corporation Pvt. Ltd., Pune	Ravi Shukla	Deputy Manager HR	XQRJ+JR3, A 134, 135, 136 Road#, 12, Road No. 12, Vishwakarma Industrial Area, Jaipur, Rajasthan 302013	8855027640	rshukla@sigma-engineered.com	
02	Midea India Pvt Ltd, AHMEDNAGAR	Sandip Vinayak Nikam	HR	Plot No A-4, Supa Parner Industrial Area, Ahmednagar , Maharashtra-414302	7058692877	sandip.nikam@midea.co.in	

03	FOX SOLUTION PVT LTD NAHSIK	Pralhad G. DHUMAL	General Mgr - Services & Recruitment	M9 - M.I.D.C. Ambad Nashik - 422010, India	91-(0)9922508208	pralhad.dhumal@foxindia.net	
04	NSK BEARINGS INDIA PRIVATE LIMITED, CHENNAI	DILLI GANESH S	Deputy Manager - HR & General Affairs	Plot No.A2, SIPCOT Oragadam, Mathur Village, Sriperumbudur Taluk, Kanchipuram-Dist, PIN Code -602105	9941210706	dilliganesh-s@nsk.com	
05	ACS Industries India Pvt Ltd., Pune	Manoj Ghuge	HR Manager	E-6/1, MIDC Loni Deokar, Pune-413312	9822755701	mghuge@acsind.com	
06	NLMK GROUP, MAHARASTRA	Dinesh Surti	Sr. Manager- HR	Plot No.H 1-2 & G3,Mahatma Gandhi Udyog Nagar Industrial Estate Dabhel, Nani | Daman-396210	9726182007	surti_d@nlmk.com	
07	KSPG AUTOMOTIVE INDIA PVT. LTD., PUNE	Mr. Chetan Naik-Nimbalkar	HR & ADMN	Gat No. 380, Village Takwe Budruk Taluka Vadgoan Maval Dist Pune PIN 412106 Maharashtra State, India	9922001141	chetan.naiknimbalkar@in	
08	RAKON INDIA PVT. LTD. BENGALURU	Abhimanyu Kumar Yadav	Lead.Officer Talent Acquisition	#12, KHB Industrial Area, Yelahanka New Town, Bengaluru – 560106, Karnataka	8971562133	Abhimanyu.yadav@rakon.com	
09	Wipro PARI High Speed Automation	Rohan Kulkarni	HR	Gat No. 463A, 463B, 464, Village Dhangarwadi,	8600585493	rohan.k@wipropari.com	

	Pvt. Ltd, Maharashtra			Tal. Khandala, Dist. Satara - 412 801. Maharashtra, India.			
10	VL ACCESS INDIA PVT. LTD. BHUBANESWAR	Sachidananda Swain	HR Manager	Plot No-526/769/1338, Anand Dham Complex. DAV School Road,Pokhariput, Kokila Vihar Lane-2 Bhubaneswar-751020,	9090701504	hr@vlaccess.com	
11	APOLLO TYRES LTD. ANDHRA PRADESH						
12	IRAJ TECHNOLOGIES, PUNE	Gaikwad Savita	HR	Gat no. 1336, Near Vikas Anath Ashram, Behind Ralph Polymer, Jyotiba Nagar Road, Sonwane Wasti, Chikhali, Pune, 411062	7387019867	admin1@irajrobotics.com	
13	CENTUM ELECTRONICS LTD. BANGALORE	Amshith C D	Assistant Manager - HR	#44, K.H.B Industrial Area, Yelahanka, Bangalore - 560 106.	9986541051	amshithcd@centumelectronics.com	
14	V-Pack Automations Pvt. Ltd, Hyderabad	VVSN Raju	Director-Technical	Plot No F-18A/1 | Road No.21 | Phase-I | IDA Jeedimetla | Hyderabad | Telangana | India-500055	9490293032.	vvsnraju@vpackautomations.com	

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
25-26	1000	800	100	80	-	-
26-27	1500	1200	150	120	-	-
27-28	2000	1600	200	160	-	-

Data to be provided year-wise for next 3 years

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

	Year	Total Candidates	Women	People with Disability

Qualification Version		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
1.0	21-22	130	105	105	105	5	5	5	5				
1.0	22-23	238	166	166	87	4	4	4	4				
1.0	23-24	91	71	71	66	1	1	1	1				

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.
2. ESDP Scheme under the Ministry of MSME.
3. PM DakshtaAurKushaltaSampannHitgrahiYojana under M/o SJE, GOI
4. Capacity building Training program under National SC/ST Hub, M/o MSME, GOI
5. DDUGKY under the MoRD.
6. Schemes under the different state Government.

Content availability for previous versions of qualifications:

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

Languages in which Content are available:

English and Hindi

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	CNC Simulators/ CAD Software, Video Content , E-Resource library	100:0
4	□Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	CNC Simulators, CNC Lathe & Milling Machines, Grinding Machines, Measuring, instruments, Cutting Tools, Hand Tools / CAD Software	100:0
5	□Tutorials/ Assignments/ Practice	Online Question Bank, Mobile Quick test app, MCQ based tests, Practical Test on Machines	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 CNC Machines, Measuring Instruments at concern Industry/ Institution	100:0

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/ACCMM/01** Single Line diagram with E-CAD:	PC.1 Explain the Importance, scope and objective of Engineering Drawing PC.2 Demonstrate and explain drawing Standards: Size of drawing sheets – Layout of drawing sheet – Title Blocks – Types of lines – Folding of drawing sheets. PC.3 Use of dimensioning techniques according to Standard of dimensions. PC.4 Demonstrate orthographic & Isometric projection by using a viewing box and a model, Use of symbol in projections -Front view, top view and side view. PC.5 Demonstrate the use of Auto CAD and Auto CAD interface, Apply coordinates systems in auto CAD. PC.6 Demonstrate the use of tool bars, Create solid field area (Hatching, Gradient) and Edit objects using the object property tool bar and various methods.	-	100	-	-

	PC.7	Explain sketch settings and Style toolbar (text style, Multileader style etc.) and Edit object using object property toolbar & various method.				
	PC.8	Demonstrate Creating the replica of model using copy, array command and Work with models in the modify toolbar.				
	PC.9	Identify the appropriate Tool to create and modify the model and Change the orientation of the object by aligns, offset, rotate command.				
	PC.10	Demonstrate Appling of standard dimension in a mechanical component.				
	PC.11	Explain about Use of dimensioning Methods: Linear, Align, ordinates, Radius, Diameter, Arc length, angular etc and Use of leader with text, block reference.				
	PC.12	Demonstrate Appling GD& T Symbols in drawings and Develop proper drawing layout.				
	PC.13	Explain about single line diagram used for electrical wiring diagram.				
	PC.14	Explain about procedures for drawing the single line diagram.				
	PC.15	Explain Use of AutoCAD Electrical software Workspace Awareness, Tool Bars, Tool Pallets ,				
	PC.16	Demonstrate Inserting component working with project manager. Overview about relay, contactor, timer and old.				
	PC.17	Explain about drafting features-copy, move, delete, scoot, align, link component, attribute reverse/ flip component, retag and update component.				
	PC.18	Demonstrate Creation of for/Rev Control circuit of 3ph induction motor using contactor and for/rev control circuit of 1ph dc motor using relay.				
	PC.19	Demonstrate creation of Star-Delta Control Circuit, Start-Delta with For-Rev Control Ckt.				
	PC.20	Demonstrate creation of Multibus, wire number, wire color, wire size, wire labeling, and overview on timer power ckt of F-R.				

	PC.21 Expain Symbol builder, cuircuit builder, icon menu wizard, power ckt of Star-Delta, Star-Delta with F-R. PC.22 Explain Panel design of F-R, A-D, panel design of F-R with S-D, schematic and panel report generation, export data to excel format.				
NOS / Module: **MSME/ACCMM/02** Transmission & Control	PC.1 Explain about electrical safety rules, use of safety precaution kit and tools. PC.2 Explain the PPE in transmission and distribution system. PC.3 Explain Basic injury prevention, Hazard identification and avoidance, safety signs for Danger, Warning, caution & personal safety. PC.4 Demonstrate measuring instrument for electrical parameter, Use of Voltmeter, Ammeter, Wattmeter, Energy meter, frequency meter, Power factor meter, multi-meters, Clamp meters, Megger, Earth tester etc. PC.5 Explain about Nonconventional & Conventional Methods of power generation. PC.6 Explain about LT and HT substations. PC.7 Demonstrate single line diagram of electrical substation with symbols. PC.8 Explain the power transmission and distribution by overhead line. PC.9 Expain the difference between AC and DC transmission lines. PC.10 Explain about the main components of overhead transmission line like, conductor, insulator, pole and tower. PC.11 Explain the line support used in transmission line. PC.12 Explain the types of power lines with respect to classification of voltage. PC.13 Explain about corona effect, sag and skin effect on overhead transmission line. PC.14 Explain the types of measuring instruments used in transmission line. PC.15 Explain single phase and three phase three wire system in transmission system. PC.16 Demonstrate different types of switch gear mechanism used in transmission and distribution system. PC.17 Demonstrate different types protecting devices used in transmission system. PC.18 Expain the steps followed for testing of overhead line.	-	100	-	-

NOS / Module : **MSME/ACCMM/03** PLC Programming	PC.1	Explain about industrial Automation, different type of automation & control, advantages & dis -advantages, area of application, Levels of automation.	-	100	-	-
	PC.2	Explain Role of automation in various industrial process & future scopes.				
	PC.3	Explain about Programmable Logic Controller (PLC), types of PLC.				
	PC.4	Explain about Scan cycle, Work Memory, Data memory, PLC hardware modules, communication protocols and gateway.				
	PC.5	Demonstration of PLC Hardware installation and communication.				
	PC.6	Expalin Diagnosis of communication errors by indication and error-messages. Correction of error.				
	PC.7	Identify of PLC Hardware and do Practice to Communicate PLC with PC/LAPTOP system Installation of PLC software & simulation.				
	PC.8	Explain about PLC-programming software& features, IEC-programming languages as LAD, FBD, and STL And Create and test LAD, FBD, STL program using bit & block-Operands.				
	PC.9	Demonstrate LAD, FBD, STL programming language Logic Gates, AND, OR, NANAD, NOR, XOR.				
	PC.10	Demonstrate on TIMER, COUNTER, and COMPARATOR blocks, in software.				
	PC.11	Explain about analog control in PLC, analog sensors and Voltage control method with 0-10v dc I/O signal /Current control method with 4-20 mA DC I/O signal.				
	PC.12	Demonstrate analog signal I/O of PLCusing Voltage control method with 0-10 v DC I/O signal /Current control method with 4-20 mA DC I/O signal.				
	PC.13	Demonstrate connection of I/O field devices in signal I/O of plc. Connection of different sensors & actuators with signal modules.				
	PC.14	Demonstrate connection of remote I/O PLC with server PLC using profibus cable and Fault analysis of Profibus / Ethernet network.				
	PC.15	Demonstrate of connection between hard ware module & I/O field devices.				
	PC.16	Demonstrate the Connection of multiple users with multiple PLC using Ethernet communication network (LAN) and Fault finding with indication and system messages.				

NOS / Module : **MSME/ACCMM/04** Machine Maintenance (Electrical)	PC.1	Explain about basic fundamental of electricity.	100	100	-	100
	PC.2	Demonstrate the PPE in Industrial Safety, Common hand tools used for electrical maintenance work.				
	PC.3	Explain Basic injury prevention, Hazard identification and avoidance, safety signs for Danger, Warning, caution & personal safety.				
	PC.4	Demonstrate about Electrical shock and its effect, effect of electrical current on human being, method of avoiding electrical shock, first aid for victim of electric shock.				
	PC.5	Explain about types of fires and fire estinguishers and their appropriate using procedure.				
	PC.6	Explain Nature of electricity and fundamental laws. Single phase & three phase system.				
	PC.7	Demonstrate different switches like push button, selector switch, limit switch etc.				
	PC.8	Demonstrate different electro- mechanical switching components as: relay, contactor and timer and testing of Relay, contactor and timer.				
	PC.9	Demonstrate different control and power circuits using relay, contactor and timers.				
	PC.10	Demonstrate about different sensors as: proximity inductive, proximity capacitive, proximity optical.				
	PC.11	Demonstrate different control and power circuits using Sensors and relay.				
	PC.12	Demonstrate the wiring and testing of control and power circuit of 3-ø star-delta starter and Electrical fault finding in both control and power circuit.				
	PC.13	Explain about different types of earthings.				
	PC.14	Demonstrate the procedure of earth testing.				
	PC.15	Demonstration of different types of electrical protective device as fuse, MCB, MCCB, RCCB, ELCB, OLR, MPCB.				
	PC.16	Explain about different types of electrical cables, specifications, selection procedure, uses, and advantages.				
	PC.17	Demonstration of underground cable laying methods. Socketing, Glanding, Fault measuring.				
	PC.18	Explain types of maintenance, Preventive Maintenance, Corrective Maintenance, And Breakdown Maintenance.				
	PC.19	Demonstrate Installation, test and run of an electric DC motors.				

	PC.20 Demonstrate Principle of Single phase and three phase motor and its application. PC.21 Install and test an electric single phase AC motors and an electric 3 phase motor using different starters. PC.22 Demonstrate MOTOR Preventive Maintenance, Corrective Maintenance and Breakdown Maintenance. Motor meggering, overhauling. PC.23 Explain about different types of transformers, working principle, specification and calculations. PC.24 Explain about different electronic components, applications and advantages. PC.25 Demonstrate different electronic component like resister, capacitor, diode, IC, transistor, SCR and its application. PC.26 Demonstrate op-amp and its application. Use op-amp to design various electronic circuits, identify the pins of op-amp IC. PC.27 Demonstrate Analog & Digital IC testing by using IC tester. PC.28 Demonstrate Function and working of oscilloscope and also measuring different quantities. PC.29 Demonstrate Function of frequency generator, counter & wave shaping etc. PC.30 Explain procedures for preparing logic diagrams for different conventional machines. PC.31 Demonstrate preparation of different machine logic circuit using different electrical components. PC.32 Demonstrate machine panel wiring, electrical fault finding procedures of different conventional machines. PC.33 Demonstrate LT panel wiring using different electrical components and circuit breakers.				

	PC.34 Explain the procedures for studing the wiring diagram of different CNC machines. PC.35 Demonstrate CNC machine panel wiring, electrical fault finding procedures of different CNC machines.				
NOS / Module : **MSME/ACCMM/05** Basics of Machine Operation	PC.1 Explain the types of Conventional & Non-Conventional Machines PC.2 Explain safety precautions followed in workshop PC.3 Explain Co-ordinate systems & points mode. PC.4 Identify Cutting Tools and Tool Holders from the standard (ISO Standard) PC.5 Explain selection procedure of standard tools/ cutters/Tool Holders as per requirement. PC.6 Define Turning Insert Shapes. PC.7 Describe Operating Conditions. PC.8 Explain Work holding methods. PC.9 Identify and Explain Tool holding Devices. PC.10 Explain the need of different oils & lubricants used. PC.11 Explain different conventional machine like lathe, milling, grinding machine etc. PC.12 Describe different machine parts & accessories. Understand about the different types of operations. PC.13 Explain the methods of machining. PC.14 Explain different cutting techniques like milling, turning, drilling, grinding etc. PC.15 Describe different machine operations like: Plain & Step turning, Parting, Facing, Profile, Drilling, Tapping, Reaming, polishing etc. PC.16 Describe standard mathematical formula used in calculation required for machine tool operation. PC.17 Calculations of machining parameters like cutting speed, cutting feed, depth of cut etc. PC.18 Explain different CNC machines like CNC milling and CNC turning machine. PC.19 Explain Axis – Orientation PC.20 Define Work sketch and Calculation PC.21 Prepare programs, demonstrate, simulate and operate CNC lathe and CNC milling.	100	100	-	-

	PC.22 Prepare basic program and cut the material in auto/single auto mode. PC.23 Execute program and inspect simple geometrical forms / standard parts. PC.24 Explain handling of tools, equipment & CNC Machines & Personal safety tool as per company product requirement.				
NOS / Module : **MSME/ACCMM/06** Machine Maintenance (Mechanical)	PC.1 Explain types of maintenance, Preventive Maintenance, Corrective Maintenance, Breakdown Maintenance & CBM PC.2 Explain about different mechanical component used in machines like gear, bearing, belts etc. PC.3 Demonstrate gear dismounting and mounting procedure. PC.4 Demonstrate different dismounting and mounting procedure of Bearings. PC.5 Demonstrate dismounting and mounting procedure of belts and other mechanical components. PC.6 Demonstrate different mechanism used in different conventional machines. PC.7 Explain about pneumatic & hydraulic system, Advantages & Limitations of pneumatic & hydraulic system applications. PC.8 Explain about safety precaution in pneumatic and hydraulic operations. PC.9 Demonstrate the pressure Measurement by different pressure gauges (Digital and Analog type). PC.10 Demonstrate different valves used in Pneumatic system. PC.11 Explain about pneumatic linear actuators and Rotary actuators. PC.12 Demonstration of different pneumatic cylinders & motor actuation. PC.13 Explain about pneumatic components symbols and pneumatic schematic control logic diagrams. PC.14 Explain about electro pneumatic system and electrical safety. PC.15 Demonstration of different electro pneumatic components as switches, relays, sensors, AC and DC supply. PC.16 Explain about electro-pneumatic component symbols and electro- pneumatic schematic control logic diagrams. PC.17 Demonstration of different electro pneumatic industrial control operations	100	100	-	100

	PC.18	Demonstration of OPC-Server communication with PC and electro-pneumatic system.				
	PC.19	Demonstration of PLC communication with PC and electro-pneumatic system.				
	PC.20	Demonstrate hydraulics Basic controlling equipment and its use.				
	PC.21	Demonstrate different parts of hydraulic pressure generation unit.				
	PC.22	Explain about different filters and their application in hydraulic system.				
	PC.23	Demonstrate different valves used in Hydraulic system.				
	PC.24	Explain about hydraulic linear actuators and Rotary actuators.				
	PC.25	Demonstrate of different hydraulic cylinders & motor actuation.				
	PC.26	Explain about hydraulic components symbols and hydraulic schematic control logic diagrams.				
	PC.27	Explain about electro-hydraulic system and electrical safety.				
	PC.28	Demonstration of different electro -hydraulic components as switches, relays, sensors, AC and DC supply.				
	PC.29	Explain about electro-hydraulic component symbols and electro- hydraulic schematic control logic diagrams.				
	PC.30	Demonstration of different electro-hydraulic industrial control operations.				
	PC.31	Demonstration of OPC-Server communication with PC and electro-hydraulic system.				
	PC.32	Demonstration of PLC communication with PC and electro-hydraulic system.				
	PC.33	Demonstrate maintenance of hydraulic & pneumatic system.				
	PC.34	Demonstrate different types of air compressor and its parts.				
	PC.35	Demonstrate preventive and breakdown maintenance of different types of air compressor.				
	PC.36	Demonstrate different types of industrial pumps and its parts.				
	PC.37	Demonstrate installation procedure of different types of Industrial pump.				
	PC.38	Demonstrate preventive and breakdown maintenance of different types industrial pump.				
	PC.39	Demonstrate preventive and breakdown Maintenance procedure of different machine like turning, milling,grinding and drilling.				
	PC.40	Demonstrate different mechanism used in CNC machines.				
	PC.41	Demonstrate different parts of CNC machines and its finctions.				

	PC.42 Demonstratte Preventive and breakdown maintenance of different CNC machines.				
NOS / Module : **MSME/ES/04** Employability skills	PC.1 Explain occupational health and Safety. PC.2 Explain about safety rules. PC.3 State the name and location of people responsible for health and safety in the workplace PC.4 Identify employability skills required for jobs in various industries. & Identify and explore learning and employability portals PC.5 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.6 Follow environmentally sustainable practices.& Recognize the significance of 21st Century Skills for employment PC.7 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 PC.8 Use basic English for everyday conversation in different contexts, in person and over the telephone. PC.9 How to Minimize the team conflicts & Explain Ethics & values PC.10 Read and understand routine information, notes, instructions, mails, letters etc. written in English PC.11 Write short messages, notes, letters, e-mails etc. in English & Understand the difference between job and career PC.12 Prepare a career development plan with short- and long-term goals, based on aptitude & Discuss the main types of electronic funds transfers PC.13 Follow verbal and non-verbal communication etiquette and active listening techniques in various settings & work collaboratively with others in a team PC.14 Communicate and behave appropriately with all genders and PwD & escalate any issues related to sexual harassment at workplace according to POSH Act. PC.15 Select financial institutions, products and services as per requirement & carry out offline and online financial transactions, safely and securely.	100	-	-	-

	PC.16 Identify common components of salary and compute income, expenses, taxes, investments etc & identify relevant rights and laws and use legal aids to fight against legal exploitation PC.17 Operate digital devices and carry out basic internet operations securely and safely & use e- mail and social media platforms and virtual collaboration tools to work effectively PC.18 Use basic features of word processor, spreadsheets, and presentations. PC.19 Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research & develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion. PC.20 Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity PC.21 Identify different types of customers & identify and respond to customer requests and needs in a professional manner. PC.22 Follow appropriate hygiene and grooming standards PC.23 Create a professional Curriculum vitae (Résumé) & search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively PC.24 Apply to identified job openings using offline /online methods as per requirement & answer questions politely, with clarity and confidence, during recruitment and selection PC.25 identify apprenticeship opportunities and register for it as per guidelines and requirements				
	Total Marks	**400**	**600**	**-**	**200**

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 Central MSME NSQF Examination Cell via email for the assessment.
- Central MSME NSQF Examination Cell sends the assessment confirmation to respective TC/AB
- Central MSME NSQF Examination Cell deploys the certified Assessor for executing the assessment at respective TC/AB via online / offline mode.
- Central MSME NSQF Examination Cell & respective TC/AB Internal Examination Cell monitors the assessment process & records

2. Testing Environment:

- Central MSME NSQF Examination Cell confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- Central MSME NSQF Examination Cell & 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 Central MSME NSQF Examination Cell and it is verified by the Central MSME NSQF Examination Cell Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are wel qualified &Trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

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

5. Method of verification or validation:

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

6. Method for assessment documentation, archiving, and access

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

On the Job:

- The module / NOS (which covers the job profile of CNC Operator- Turning will be assessed.
- 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