



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

**MSME TECHNOLOGY CENTRE**



**Skill India**  
कौशल भारत - कुशल भारत

## QUALIFICATION FILE

### Technical Supervisor - Computer Aided Engineering

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

Upskilling  Dual/Flexi Qualification  For ToT  For ToA

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

NCrF/NSQF Level: 5

Submitted By:

MSME TECHNOLOGY CENTRE

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

Govt. of India

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## Section 1: Basic Details

1.	<b>Qualification Name</b>	<b>Technical Supervisor - Computer Aided Engineering</b>	
2.	<b>Sector/s</b>	<b>Capital Goods &amp; Manufacturing</b>	
3.	<b>Type of Qualification:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options  <input type="checkbox"/> OEM	<b>NQR Code &amp; version of existing/previous qualification:</b> <i>(change to previous, once approved)</i>  QG-05-CG-02407-2024-V1-MSME	<b>Qualification Name of existing/previous version:</b>  <b>Technical Supervisor - Computer Aided Engineering</b>
4.	a. OEM Name  b. Qualification Name  (Wherever applicable)	NA  -	
5.	<b>National Qualification Register (NQR) Code &amp; Version</b> <i>(Will be issued after NSQC approval)</i>	QG-05-CG-02407-2024-V1-MSME	6. NCrF/NSQF Level: 5.0
7.	<b>Award (Certificate/Diploma/Advance Diploma/Any Other)</b> <i>(Wherever applicable specify multiple entry/exits also &amp; provide details in annexure)</i>	<b>Certificate</b>	
8.	<b>Brief Description of the Qualification</b>	The learner who attend this qualification will be competent in the following area,  <ul style="list-style-type: none"> <li>• To be expertise in Engineering Analysis Solution through CAE Application</li> <li>• To get an employment in Engineering/ Manufacturing industries.</li> <li>• To become an entrepreneur</li> </ul>	

9.	<b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>	<p>a. Entry Qualification &amp; Relevant Experience: Qualification &amp; Relevant Experience in the field of Mechanical, Production and Automobile Engineering &amp; its Equivalent</p> <table border="1" data-bbox="931 252 2136 687"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BE/B.Tech Perusing in relevant Trade</td> <td>Nil</td> </tr> <tr> <td>2</td> <td>Completed 3-year diploma after 10<sup>th</sup></td> <td>4.5-years relevant experience</td> </tr> <tr> <td>3</td> <td>Previous relevant Qualification of NSQF Level 4.5</td> <td>1.5 -years relevant experience</td> </tr> <tr> <td>4</td> <td>Previous relevant Qualification of NSQF Level 4</td> <td>3 -years relevant experience</td> </tr> </tbody> </table> <p>b. Age: 18 Years</p>					S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	BE/B.Tech Perusing in relevant Trade	Nil	2	Completed 3-year diploma after 10 <sup>th</sup>	4.5-years relevant experience	3	Previous relevant Qualification of NSQF Level 4.5	1.5 -years relevant experience	4	Previous relevant Qualification of NSQF Level 4	3 -years relevant experience								
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4	Previous relevant Qualification of NSQF Level 4	3 -years relevant experience																											
10.	<b>Credits Assigned to this Qualification, Subject to Assessment(as per National Credit Framework (NCrF))</b>	20	<b>11. Common Cost Norm Category (I/II/III)</b> (wherever applicable):I																										
12.	<b>Any Licensing requirements for Undertaking Training on This Qualification(whenever applicable)</b>	NA																											
13.	<b>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</b>	<input type="checkbox"/> Offline <input type="checkbox"/> Online <input checked="" type="checkbox"/> Blended																											
		<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>72</td> <td>360</td> <td>60</td> <td>-</td> <td>492</td> </tr> <tr> <td>Online</td> <td>108</td> <td>-</td> <td>-</td> <td>-</td> <td>108</td> </tr> <tr> <td><b>Total</b></td> <td><b>180</b></td> <td><b>360</b></td> <td><b>60</b></td> <td></td> <td><b>600</b></td> </tr> </tbody> </table>				Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	72	360	60	-	492	Online	108	-	-	-	108	<b>Total</b>	<b>180</b>	<b>360</b>	<b>60</b>		<b>600</b>
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		(Refer Blended Learning Annexure for details)																											

14.	<b>Aligned to NCO/ISCO Code/s</b> <i>(if no code is available mention the same)</i>	2144.03(Tool Engineer)	
15.	<b>Progression path after attaining the qualification</b> <i>(Please show Professional and Academic progression)</i>	Professional Progress: Asst. Manager Academic Progress: Post Graduate in Tool Design & CAD/CAM (NSQF Level 6)	
16.	<b>Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>	Hindi	
17.	<b>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:	
18.	<b>Is the Job Role Amenable to Persons with Disability</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: As per the govt.norms.	
19.	<b>How Participation of Women will be Encouraged</b>	Seats are reserved as per government Norms.	
20.	<b>Are Greening/ Environment Sustainability Aspects Covered</b> <i>(Specify the NOS/Module which covers it)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The said aspect is covered in the module name Employability skills.	
21.	<b>Is Qualification Suitable to be Offered in Schools/Colleges</b>	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes Subject to availability of resources.	
22.	<b>Name and Contact Details of Submitting / Awarding Body SPOC</b> <i>(In case of CS or MS, provide details of both Lead AB &amp; Supporting ABs)</i>	Name: Sh. Vijay Mahipatrao Bankar Contact No. +0755 3501078 Email-msmetcab@gmail.com	
23.	<b>Final Approval Date by NSQC:</b>	24. Validity Duration:3 Years	25. Next Review Date

## Section 2: Module Summary

### NOS/s of Qualifications

(In exceptional cases these could be described as components)

#### Mandatory NOS/s:

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

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

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	INTRODUCTION TO FINITE ELEMENT ANALYSIS (FEA)	MSME/MCCCAE /04 & Version 1.0	Core	5	2	60	-	-	-	60	100	-	-	-	100	
2.	Create & Modify Part Model using higher end CAD Software	MSME/MCCCAE /01 & Version 1.0	Core	5	4	30	90	-	-	120		100	-	-	100	
3.	Analyses & Simulation of CAD Model using CAE Tools	MSME/MCCCAE /02 & Version 1.0	Core	5	12	30	270	60	-	360		100	-	-	100	
4.	Employability skills	MSME/MCCCAE /05	Non-Core	5	2	60	-	-	-	60	100	-	-	-	100	
<b>Duration (in Hours) / Total Marks</b>																
					20	180	360	60		600	200	200			400	

#### 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.	NOS/Module	NOS/Module	Core/	NCrF/NSQF	Credits as	Training Duration (Hours)					Assessment Marks				
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No	Name	Code & Version (if applicable)	Non- Core	Level	per NCrf	Th.	Pr.	OJT- Man.	OJT- Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)

Assessment - Minimum Qualifying Percentage

Please 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.	<b>Trainer's Qualification and experience in the relevant sector (in years)(as per NCVET guidelines)</b>	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 6 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.	<b>Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)</b>	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.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	<b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>	Yes

## Section 4: Assessment Related

1.	<b>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	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 certified assessors will be able to conduct assessments.
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	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.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	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.	<b>Assessment Mode (Specify the assessment mode)</b>	<b>Blended Type (Online + Offline)</b>
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (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.	<b>Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes</b> India Skills Report 2023, " Roadmap to India's Skills and talent Economy 2030"
2.	<b>Latest Market Research Reports or any other source (not older than 2years) (Yes/No): Yes</b> 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.	<b>Government /Industry initiatives/ requirement (Yes/No): Yes</b>
4.	<b>Number of Industry validation provided: 30</b>
5.	<b>Estimated nos. of persons to be trained and employed: 700 Approx</b>
6.	<b>Evidence of Concurrence/Consultation with Line Ministry/State Departments: NA</b> If "No", why:

## Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	<b>Annexure:</b> NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Annexure-I
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Annexure-II
3.	<b>Annexure:</b> Industry Validations Summary	Annexure-III
4.	<b>Annexure:</b> Training & Employment Details	Annexure-IV
5.	<b>Annexure:</b> Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	Annexure-V
6.	<b>Annexure:</b> Detailed Assessment Criteria (Mandatory)	Annexure-VI
7.	<b>Annexure:</b> Assessment Strategy (Mandatory)	Annexure-VII
8.	<b>Annexure:</b> Acronym and Glossary (Optional)	Annexure- VIII
9.	<b>Annexure:</b> Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	NA
10.	<b>Supporting Document:</b> Model Curriculum (Mandatory – Public view)	Annexure- IX
11.	<b>Supporting Document:</b> Career Progression (Mandatory - Public view)	This aspect mentioned in point no. 15
12.	<b>Supporting Document:</b> Occupational Map (Mandatory)	Annexure-X
13.	<b>Supporting Document:</b> Assessment SOP (Mandatory)	Annexure- XI
14.	Any other document you wish to submit:	NA

### Annexure I: Evidence of Level

NCrf/NSQF Level	Key requirements of the job role/ outcome of the	How the job role/ outcomes relate to the NCrf/NSQF level descriptor	NCrf/NSQF
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Descriptors	qualification		Level
Professional Theoretical Knowledge/Process	<ul style="list-style-type: none"> <li>• Design &amp; Develop the product using CAD Software.</li> <li>• Develop Engineering solution using CAE Tools</li> <li>• Analyze the Tool / Product using the CAE Software.</li> <li>• Provide the CAE Solution for Industrial Application</li> </ul>	<p>In this qualification Job Holder has to carry out Designing activity of product by using the CAD software like Unigraphics CAD. In case 2D model received convert into 3D model and quality check of the 3D model against inspection sheet.</p> <p>Job holder shall be responsible for CAE solution provided by team members. Job holder shall use Computer Aided Design software like Unigraphics for 3D modeling by using competent software as per requirement.</p> <p>Job holder shall use Computer Aided Engineering software like Ansys / Hypermesh for 1D, 2D &amp; 3D Mesh analysis or analyze the Tool / Product by using competent software as per requirement.</p> <p>Job Holder shall have detail knowledge of Finite Element Analysis with clear concept.</p> <p>Job Holder shall use best CAE tool for the given problems.</p>	Level 5.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ul style="list-style-type: none"> <li>• Identify customer’s requirement for the Analysis of Product / Tools.</li> <li>• Identify the Standard Parameters for the CAE solution &amp; Test against standards and parameters</li> <li>• Develop the process plan for Analysis Solution.</li> <li>• Analyze and understand the mechanical property of the component</li> <li>• Understand the concept &amp; principle of computer aided Engineering (CAE).</li> <li>• Prepare Conceptual design and finalize</li> <li>• Analyze using CAE software like Ansys / Hypermesh</li> </ul>	<p>Job holder shall carry out the Finite Element Analysis through following professional skill: gather accurate information on the requirements of the customer, confirm the customer's objectives for the engineering products or processes, Using standard unit system as customer’s requirement.</p> <p>Job Holder shall prepare and set the parameter for the CAE solution and test against the standards.</p> <p>Job Holder shall understand the various mechanical properties like Material Stress and Strain, Young’s Modulus, Yield Strength, Tensile Strength, Plasticity, Toughness, Hardness, Brittleness, Fatigue Strength etc.</p> <p>Job Holder shall deep knowledge of various loading condition like single point load, Uniformly Varying load, uniformly distributing load and cyclic loading etc. and able to apply the same for problem solving strategy.</p> <p>Job Holder shall able to develop the various result like Displacement, Stress, Total Strain, Elastic Strain, Plastic Strain, Thermal Strain, Element Nodal</p>	Level 5.5

		<p>Reaction Forces, Nodal Orientation Values etc.</p> <p>Job Holder shall able to Generate the different types of graphs &amp; Publish the graphs</p> <p>Job holder shall able to do the 1D, 2D &amp; 3D Meshing using Hypermesh Software.</p> <p>Job Holder shall be able to do the Geometry creation, geometry modification &amp; Manual Auto Meshing.</p>	
<p>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</p>	<ul style="list-style-type: none"> <li>• Understand Personal Strengths \ Value, Digital Literacy, Money Matters and Preparing for Employment &amp; Self Employment</li> <li>• Develop entrepreneurship skills</li> <li>• Exercise self- management within the work contexts</li> </ul>	<p>Learner can Develop communication competence, report writing skills &amp; preparation of Resumes or Curriculum Vitae, Learner can be able to Interact effectively with co-workers and can apply the Engineering Ethics and Human Values at workplace.</p> <p>Learner can understand the basic process of becoming an entrepreneur &amp; start up and can get benefits from various government schemes applicable.</p> <p>Learner can Analyze and clarify task-related information, Meaning and importance of entrepreneurship, Enterprise Registration, Business Skills - Motivation and Leadership</p> <p>Learner can develop Effective Communication, Interpersonal Relationships, Compliances &amp; Marketing plan.</p> <p>Learner can do the required Time Management for successful completion of the project &amp; develop Time Management within the team.</p>	<p>Level 5.5</p>
<p>Broad Learning Outcomes/Core Skill</p>	<ul style="list-style-type: none"> <li>• Use basic health and safety practices at the workplace</li> <li>• Work on project</li> <li>• Communicate effectively</li> <li>• Mathematical Calculation skills</li> <li>• Maintain &amp; prepare reports as per standard / check sheet.</li> <li>• identify job-site hazardous work and state possible</li> </ul>	<p>Job holder shall work on project where he/she shall gather accurate information on project, organize logically. e.g. concept and requirements, Confirm the project objectives, preparation of conceptual plan, selection of CAD/CAM/CAE software based on capabilities of modelling, use Presentation skills, utilize CAD &amp; CAM Software, communicate clearly about the project requirement to the group members through written /verbal/e mail etc. as per organizational standard, identify different design options which will meet</p>	<p>Level 5.5</p>

	<p>causes of risk or accident.</p>	<p>requirements and design specification.</p> <p>Job holder will use mathematical calculations while designing and analyzing the CAD model through: calculate stain stress value for standard mechanical component. Calculate the geometry of component on the basis of given parameter. Calculate the bulking stress, calculate the pressure, and calculate the factor of safety.</p> <p>Job holder shall use protective equipment while working on computers and during working on shop floor, wear helmet, state the name and location of people responsible for health and safety in the workplace, state the names and location of documents that refer to health and safety in the workplace, identify job-site hazardous work and state possible causes of risk or accident.</p> <p>Learners will have the knowledge of evaluating the components with the standards drawing for the given job, Use of GD&amp;T symbols.</p> <p>Learners are capable of taking decision for the quality output and productivity enhancement</p>	
<p>Responsibility</p>	<ul style="list-style-type: none"> <li>• Responsibility for own work and learning and full responsibility for other’s works and learning</li> <li>• Team Building</li> <li>• Manages processes and procedures within broad parameters for defined activities.</li> </ul>	<p>Job holder shall be responsible for own work of design and development. After completing the concept job holder work with time line and with job responsibilities of team members like designing and development CAD model, analyze the design and optimize the design.</p> <p>Job holder will encourage team members for continues learning and development by time to time discussing with them various issues of project.</p> <p>Job holder will follow work standard, specific norms and procedures laid down by the organization.</p> <p>Job holder will develop moral, values and ethical practices in business operation.</p>	<p>Level 5.5</p>

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

### List of Tools and Equipment Batch Size:20

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Desk top / Computer system With LAN	As per Standard specification and availability preferably with Lasted version of OS and Software	1 PC per candidates
2	CAD Software – UNIGRAPHICS NX	As per the availability preferably Lasted version of Software	1 seat per candidates
3	CAE SOFTWARE –ANSYS & HYPERMESH	As per the availability preferably Lasted version of Software	1 seat per candidates
4	<b>General Equipment for Classroom:</b> White Board, Smart Board, Duster, Marker, Multimedia /LCD Projector, Audio Video Aids, Pen drive and Practice exercise etc.	As per standard and availability	1 Set

## Annexure: Industry Validations Summary

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

Sr. No	Organization Name	Representative	Designation	Contact Address	Contact Number	Email ID	LinkedIn
1	MIKRONIX GAUGES PVT LTD		MD	B-25 MIDC , CHIKALTHANA, CH. SAMBHAJINAGAR	9822004674	MGPLAY@GMAIL.CO M	
2	ALLWIN UNITED ASSOCIATION PVT.LTD	MI PANKAJ	DIRECTOR	ALLWIN UNITED ASSOCIATION PVT.LIMITED	7588537412	CONTACT@TECHNOC ADDAPL.COM	
3	MIS ANNA BLOCK BORING CENTER	MASIT KHAN	PROPRIETOR	MIS ANNA BLOCK BORING CENTER	9767375083		
4	LAXMI ENTERPRISES	RANJANA BHAYYA SAHEB PAWAR	MI.MANAGER	SAINAGAR GHANEGAON MIDC WALUJ, AURANGABAD	7387431128		
5	M/S HR INDUSTRIES	VASPUT JAUGELE	PROPRIETOR	SAJAPUR, AURANGABAD	9637384737		
6	GAYATRI AUTO COMPONENTS, AURANGABAD	MR. RANJEET METE	MANAGER	AURANGABAD	7385613842	INFO@GAYATRIAUTO .IN	

7	SHARP TOOLS	MAHESH DORLE	SR.MANAGER		9689574563		
8	CHANCHAL ENGINEERING WORKS AURANGABAD	DRYHAEBHWAR	PROPRIETOR	AURANGABAD	9765499939	CHANCHALENGINEERINGWORKS@GMAIL.COM	
9	AKSHARA ENGINEERING WORKS	SHIVAJI GAIKWAD		WALUJ MIDC AURANGABAD	9096420857		
10	ARUSHI ENGINEERING AND BREEZING	VIJAYA PARADE	MANAGER	WALUJ MIDC AURANGABAD	9049596736		
11	SR INDUSTRIES AURANGABAD	RAJENDRA SAUDAGAR MARE	SR. MANAGER	AURANGABAD	8698145607		
12	DEVA ENGINEERING AURANGABAD	ASHOK MOTINAM VEOR	SR. MANAGER	AURANGABAD	8459567793		
13	MAULI PATTERN AURANGABAD	MR.PANCHAL	PROFESSOR	AURANGABAD	9673067755		
14	NAVARATNA INDUSTRIES			WALUJ MIDC AURANGABAD			
15	PRANAW ENTERPRISES AURANGABAD	PANDRINATH DEVKAR	PROPRIETOR	AURANGABAD	9371671146	PRANAVENT@GMAIL.COM	
16	R.P INDUSTRIES	PRASHANT PATIL	CEO	MIDC CHIKATHANA AURANGABAD	8007222251	PRASHANTPATIL@GMAIL.COM	
17	TECHNO MOULD SOLUTION	MR.PANDA	PROPRIETOR	AURANGABAD	7774077907	TECHNOMOULDSOLUTIONS@GMAIL.COM	
18	SANJAY THCHNO PRODUCTS	HEMANT CHAUDHURY	VP-MANUFACTURING	AURANGABAD	9158898090	HEMANT.CHAUDHARI@SANJAYTECHNOPRODUCTS.IN	
19	SPECIAL PRECISION	ASHIWINI TADHAV	PROPRIETOR	AURANGABAD		SPECIALASHIWINI@GMAIL.COM	

20	PARASON MACHINERY (INDIA) PVT LTD	GHAHU	GM	AURANGABAD	9325202860	AMOIL.MOGAL@PAS ASEN.COM	
21	PADMA INDUSTRIES	VITTHALKADOM	CEO	MIDC AURANGABAD	9421688212	VITTHALKADOM2525 @GMAIL.COM	
22	VANI ENGINEERING CO.PVT LTD	SUBH	GENERAL MANAGER	AURANGABAD	9730729991	SKAPE@GMAIL.COM	
23	GLANCE ENGINEERING -6 PVT.LIMITED CHIKALTHANA	SUBH SK	GENERAL MANAGER	CHIKALTHANA	9730729991	S.KALE@GMAIL.COM	
24	SURAJ TOOLS AND ENGINEERING WORKS	DEIM	CEO	MIDC CHIKATHANA AURANGABAD	7447375273	SURAJTOOLS@GMAIL .COM	
25	JAI BHAVANI ENGINEERING WORKS		GENERAL MANAGER		9370251815		
26	S N ENGINEERINGWORKS	SNEHA	CEO	CH SAMBHAJINAGAR	9822859974	SNEHAG858@GMAIL. COM	
27	R N INDUSTRIES	TLC	CEO	KAIAGRAM, AURANGABAD	9890718928	R.N.INDUSTRIES01@ GMAIL.COM	
28	MADURA DIE CAST PVT LIMITD	MADHURA	CEO	SHENDRA AURANGABAD	9422204622	MADHRADIECAST@G MAIL.COM	
29	SWAGATI ENGINEERING WIS2		CEO	CHIKALTHNA,AURANGABAD	9763714369	SWAGATIENGG@GM AIL.COM	
30	IDEAL ENTERPRISE		GENERAL MANAGER	CHIKALTHANA AURANGABAD	9763785199	IDEAL1993@GMAIL.C OM	
31	INDEXABLE CUTTING TOOL	TOR	PROPRIETOR	BAJAJNAGAR,AURANGABAD			
32	INDOTURAN INDUSTRIES	USHAL SHINDE	PROPRIETOR	MIDC AURANGABAD WALUJ	9595280808		
33	CREATIVE CASTING INDUSTRIES	MR. SANJAY RANDIRE	PARTNER	K-30, MIDC WALUJ , AURANGABAD	9011001671	CREATIVECAST@REDI FFMAIL.COM	
34	PYRAMID INDUSTRIES	MR. RAJENDRA	PROPRIETOR				

		KALE					
35	RMG INDUSTRIES	RAOUAL	CEO	MIDC AURANGABAD WALUJ	9766699611	EAJUQANDA@RMGIN DUSTRIES.COM	

### Annexure: 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
2023-24	3000	2400	300	240	-	-
2024-25	4500	3600	450	360	-	-
2025-26	6000	4800	600	480	-	-

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	86	86	86	81	5	5	5	4	-	-	-	-
1.0	2021-22	123	123	123	120	11	11	11	8	-	-	-	-
1.0	2022-23	69	69	69	60	4	4	4	3	-	-	-	-

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 Dakshta Aur Kushalta Sampann Hitgrahi Yojana under M/o SJE, GOI
4. Capacity building Training program under National SC/ST Hub, M/o MSME, GOI
5. 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 is 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/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	<input type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	Books/ e-books, Presentations, Reference Material , Audio / Video Modules with 2D and 3D animation Videos /Broadcasts.	40:60
2	<input type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Self-Learning Videos , Broadcasts, Mobile Learning , Curated Digital content	40:60
3	<input type="checkbox"/> Showing Practical Demonstrations to the learners	CAD Software, Video Content , E-Resource library	100:0
4	<input type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	CAD Software, CAE Software like Ansys & Hypermesh	100:0
5	<input type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice	Online Question Bank, MCQ based tests, Tool Design Practice	50:50
6	<input type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Assessment engine for Essays, Up-loadable file examinations, Mock test sessions	50:50
7	<input type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	NA	-

## Annexure III: 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
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<b>NOS / Module:</b>  <b>MSME/MCCCAE/01</b>  INTRODUCTION TO FINITE ELEMENT ANALYSIS (FEA)	PC 1. Analyze and understand the mechanical property of the component. PC 2. Understand the concept & principle of computer aided Engineering (CAE). PC 3. Describe stress strain relationship PC 4. Solve static Analysis PC 5. Understand the axial stress on trusses and frame PC 6. Describe conduction, convection & radiation PC 7. To apply proper remote boundary conditions PC 8. Knowledge of post processing.	100	-	-	-
<b>Total Marks</b>		-	<b>100</b>	-	-
<b>NOS / Module:</b>  <b>MSME/MCCCAE/02</b>  Create & Modify Part Model using higher end CAD Software	PC 1. Describe various feature in CAD software. PC 2. Explain about limitation & advantages of each CAD Software PC 3. Explain working of CAD/CAM PC 4. Create and Edit 2D geometric sketches by using Unigraphics NX software. PC 5. Develop 3D modeling by using advanced command. PC 6. Apply assembly constraint & develop different types of assembly design by using CAD Software like Unigraphics NX PC 7. Create the detail drafting of the product / assembly. PC 8. Create / import entities in 3D space as per job requirement PC 9. Modify entities in 3D space as per job requirement PC 10. Create 3-D views on the screen by manipulating drawing planes and inserting 3-D geometric shapes PC 11. Produce a model for export to the CAE Software	-	100	-	-
<b>Total Marks</b>		-	<b>100</b>	-	-
<b>NOS / Module:</b>	PC 1. Understand the need Analysis and need of CAE Software PC 2. Different file format use in CAE Software	-	100	-	-

<p><b>MSME/MCCCAE/03</b></p> <p>Analyses &amp; Simulation of CAD Model using CAE Tools</p>	<p>PC 3. Export and Import of different file format in CAE</p> <p>PC 4. Define the different parameter for analysis</p> <p>PC 5. Generate the mesh file</p> <p>PC 6. Define the load and boundary parameter for the CAD model</p> <p>PC 7. Simulate the result</p> <p>PC 8. Validate the result</p> <p>PC 9. Optimize the result</p> <p>PC 10. Generate the macro file for the analysis</p> <p>PC 11. Generate the different types of graphs</p> <p>PC 12. Publish the graphs</p> <p>PC 13. Generate the report.</p> <p>PC 14. Generate the Auto Meshing &amp; Manual Meshing.</p> <p>PC 15. Generate the Geometry and modify the geometry using Hypermesh</p>				
<b>Total Marks</b>		-	<b>100</b>	-	-
<p><b>NOS / Module:</b></p> <p><b>MSME/ES/02</b></p> <p>Employability skills</p>	<p>PC 1. Explain occupational health and Safety.</p> <p>PC 2. Explain about safety rules.</p> <p>PC 3. State the name and location of people responsible for health and safety in the workplace</p> <p>PC 4. Identify employability skills required for jobs in various industries. &amp; Identify and explore learning and employability portals</p> <p>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.</p> <p>PC 6. Follow environmentally sustainable practices. &amp; Recognize the significance of 21st Century Skills for employment</p> <p>PC 7. Practice the 21st Century Skills such as Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking,</p>	100	-	-	-

	<p>social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life</p> <p>PC 8. Use basic English for everyday conversation in different contexts, in person and over the telephone.</p> <p>PC 9. How to Minimize the team conflicts &amp; Explain Ethics &amp; values?</p> <p>PC 10. Read and understand routine information, notes, instructions, mails, letters etc. written in English</p> <p>PC 11. Write short messages, notes, letters, e-mails etc. in English &amp; Understand the difference between job and career</p> <p>PC 12. Prepare a career development plan with short- and long-term goals, based on aptitude &amp; Discuss the main types of electronic funds transfers</p> <p>PC 13. Follow verbal and non-verbal communication etiquette and active listening techniques in various settings &amp; work collaboratively with others in a team</p> <p>PC 14. Communicate and behave appropriately with all genders and PwD &amp; escalate any issues related to sexual harassment at workplace according to POSH Act.</p> <p>PC 15. Select financial institutions, products and services as per requirement &amp; carry out offline and online financial transactions, safely and securely.</p> <p>PC 16. Identify common components of salary and compute income, expenses, taxes, investments etc &amp; identify relevant rights and laws and use legal aids to fight against legal exploitation</p> <p>PC 17. Operate digital devices and carry out basic internet operations securely and safely &amp; use e- mail and social media platforms and virtual collaboration tools to work effectively</p> <p>PC 18. Use basic features of word processor, spreadsheets, and presentations.</p> <p>PC 19. Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research &amp; develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place</p>				
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	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.				
	<b>Total Marks</b>	<b>100</b>	-	-	-
<b>Grand Total</b>		<b>200</b>	<b>200</b>		

### Annexure IV: 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 VI: Acronym and Glossary

### Acronym

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

### Glossary

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