QUALIFICATION FILE

Mechanical Engineering CAD

☒ 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: 4.5

Submitted By:

Capital Goods and Strategic Skill Council

39,1st Floor, Samyak Tower, Pusa Rd, Block 9A, WEA, Karol Bagh, New Delhi, Delhi, 110005

Table of Contents

Section 1: Basic Details

1.	**Qualification Name**	Mechanical Engineering CAD	
2.	**Sector/s**	Capital goods and Strategic Manufacturing	
3.	**Type of Qualification: ☒ New ☐ Revised** ☐ **Has Electives/Options** ☐**OEM**	**NQR Code & version of existing/previous qualification:** *(change to previous, once approved)*	**Qualification Name of existing/previous version:**
4.	a. **OEM Name** b. **Qualification Name** (*Wherever applicable*)	**NA**	
5.	**National Qualification Register (NQR) Code &Version** (*Will be issued after NSQC approval*)	QG-4.5-CG-01808-2024-V1-CGSC	**6. NCrF/NSQF Level: 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**	Mechanical engineering computer aided design (CAD) is the use of computer systems to assist in the creation, modification, analysis, or optimization of an engineering design. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communication through documentation, and create a database for manufacturing. CAD output is often in the form of electronic files for print, manufacturing documentation, or other manufacturing processes. The technical and engineering drawings and images must convey information such as materials, processes, dimensions and tolerances according to application-specific conventions. CAD may be used to design curves and figures in two-dimensional (2D) space or curves, surfaces and solids in three-dimensional (3D) space. CAD is also used to produce computer animation for the special effects used in, for example, advertising and technical manuals.CAD is an important industrial art and is the way projects come true. It is extensively used in many applications, including automotive, ship building and aerospace industries, and in industrial design. The CAD process and outputs are essential to successful solutions for engineering and manufacturing problems. CAD software helps us explore ideas, visualize concepts through photorealistic renderings and movies, and simulates how a design project will perform in the real world.	

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.	Completed 1st year of UG	
2.	Pursuing 1st year of UG and	

	continuous education	
3.	Pursuing 3rd year of 3-year diploma after 10th and continuous education	
4.	Pursuing 2 nd year of 2- year diploma after 12 and continuous education	
5	10th Grade pass with 1 year NTC plus 1 year NAC plus 1 year CITS	
6	10th grade pass with 1 year NTC plus CITS	1 year Experience required
7	8th Grade pass with 2 year NTC plus 1 year NAC plus 1 year CITS	1 year Experience required
8	Previous relevant Qualification of NSQF Level 3.5 and with minimum education as 8th Grade pass	3 year relevant experience
9	Previous relevant Qualification of NSQF Level 4 and with minimum education as 8th Grade pass	1.5 year relevant experience

b. Age: 21

10	**Credits Assigned to this Qualification, Subject to Assessment** *(as per National Credit Framework (NCrF))*	16	**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)	150	270	90		510
Online					

(Refer Blended Learning Annexure for details),

14	**Aligned to NCO/ISCO Code/s** *(if no code is available mention the same)*	NCO-2015/2144.0201	
15	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	Design Engineer, CAD Specialist, Product Development Engineer, Simulation and Analysis Engineer, Entrepreneurship	
16	**Other Indian languages in which the Qualification & Model Curriculum are being submitted**	**No**	
17	**Is similar Qualification(s) available on NQR-if yes, justification for this qualification**	☐ **Yes** ☒ **No** URLs of similar Qualifications:	
18	**Is the Job Role Amenable to Persons with Disability**	☐ **Yes** ☒ **No** **If "Yes", specify applicable type of Disability:**	
19	**How Participation of Women will be Encouraged**	**The qualification pack empowers women to participate and thereby creating employment and research openings in different sectors**	
20	**Are Greening/ Environment Sustainability Aspects Covered** *(Specify the NOS/Module which covers it)*	☐ **Yes** ☒ **No**	
21	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools** ☒ **Yes** ☐ **No** **Colleges** ☒ **Yes** ☐ **No** **School: Atal Tinkering labs** **College: Atal Incubation, MSME incubation and state incubators**	
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: Ms. Shalini Singh** **Email: ceo@cgssc.org** **Contact No.: 9654310244** **Website: www.cgsc.in**	
23	**Final Approval Date by NSQC:** *06/02/2024*	**24. Validity Duration: 2 years**	**25. Next Review Date: 06/02/2026**

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.	Work organization and management(MCAD)	CSC/N0459 V1.0	Non-Core	4.5	2	20	40	-	-	60	30	70			100	16
2.	Materials, software, and hardware	CSC/N0447 V1.0	Core	4.5	3	25	35			60	30	70			100	18
3.	Perform 3D modelling	CSC/N0448 V1.0	Core	4.5	3	30	60	-	-	90	30	70			100	18
4.	Create photo rendered images (2D) and creation of animations	CSC/N0449 V1.0	Core	4.5	3	25	35	-	-	60	30	70			100	16
5.	Reverse engineering of physical models	CSC/N0450 V1.0	Core	4.5	2	20	40	-	-	60	30	70			100	16
6.	Technical drawing and measuring	CSC/N0451 V1.0	Core	4.5	3	30	60	-	-	90	30	70			100	16
Duration (in Hours) / Total Marks					16	150	270	90		510	180	420			600	100

Assessment - Minimum Qualifying Percentage

*Please specify **any one** of the following:*

Minimum Pass Percentage – Aggregate at qualification level: 70   % *(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Minimum Pass Percentage – NOS/Module-wise: 70   % *(Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Electrical/ Mechatronics/ Industrial/ Information Technology with 7 years of relevant experience.
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Electrical/ Mechatronics/ Industrial/ Information Technology with 10 years of relevant experience.
3.	**Tools and Equipment Required for Training**	☒Yes ☐No *(If "Yes", details to be provided in Annexure)*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Electrical/ Mechatronics/ Industrial/ Information Technology with 7 years of relevant experience.
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Electrical/ Mechatronics/ Industrial/ Information Technology with 7 years of relevant experience.
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	B. Tech in Electrical/ Mechatronics/ Industrial/ Information Technology with 10 years of relevant experience.
4.	**Assessment Mode** *(Specify the assessment mode)*	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):** No
2.	**Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):** No
3.	**Government /Industry initiatives/ requirement (Yes/No):** Yes
4.	**Number of Industry validation provided:** 7
5.	**Estimated nos. of persons to be trained and employed:**
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: Evidence of Level*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Annexure: Tools and Equipment (Lab Set-Up)*
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Annexure: Detailed Assessment Criteria*
4.	**Annexure:** Assessment Strategy *(Mandatory)*	*Annexure: Assessment Strategy*
5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	
6.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	
7.	**Annexure:** Acronym and Glossary *(Optional)*	*Annexure: Acronym and Glossary*
8.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*MC_CG IIoT Data Analytics Engineer*
9.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*Summary sheet*
10.	**Supporting Document:** Occupational Map *(Mandatory)*	*Occupational Mapping*
11.	**Supporting Document:** Assessment SOP *(Mandatory)*	*Attached in MC_CG IIoT Data Analytics Engineer*
12.	**Any other document you wish to submit:**	

Annexure: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	• Work organization and management • Materials, software, and hardware • 3D modelling • Create photo rendered images (2D) and creation of animations • Reverse engineering of physical models • Technical drawing and measuring	As can be inferred from the learning outcomes and performance criteria of the Qualification listed in the adjacent cell, the Mechanical Engineering CAD requires well developed skill, with clear choice of procedures in familiar context. Hence NSQF level for this descriptor is 4.5.	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	• The various purposes and uses for CAD designs • Health and safety legislation and best practice including specific safety • precautions when using a visual display unit (VDU) and in a work station environment • Recognized IT systems and related professional design software • Computer operating systems to be able to use and manage	As can be inferred from the knowledge and understanding related points mentioned in the adjacent cell, which have been taken from the Mechanical Engineering CAD qualification pack, job role holder must have a knowledge of facts, principles, processes and general concepts, in a field of work or study Hence NSQF level for this descriptor is 4.5.	4.5

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	computer files and software correctly • Peripheral devices used in the CAD process • Specific specialist technical operations within design software • The range, types and uses of specialist product available to support and facilitate the CAD process • The production process for designs • The limitations of design software • Formats and resolutions • The use of plotters, printers, 3D printers and 3D scanners. Programmes in order to configure the parameters of the software • Computer operating systems in order to use and manage computer files and software • Mechanical systems and their functionality • How a component is assembled • The use of lighting, scenes and decals to produce photo rendered images • How to demonstrate the working of an image		

	• Materials and processes for obtaining unprocessed work pieces: • Castings • Welding • Machining • Simulation • The process to transfer real objects to 3D images/3D models and then to technical drawings • The use of manuals, tables, list of standards, and product catalogues		
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	• Communication Skill • Relevant theory and applications of mathematics, physics, and geometry • Technical terminology and symbols •	As can be inferred from the knowledge and understanding related points mentioned in the adjacent cell, which have been taken from the Mechanical Engineering CAD qualification pack, job role holder must have a knowledge of facts, principles, processes, and general concepts, in a field of work or study Hence NSQF level for this descriptor is 4.5.	4.5
Broad Learning Outcomes/Core Skill	• Communication Skills • Decision Making • Planning • Mathematical Skills • Digital skills	As can be inferred from the knowledge and understanding related points mentioned in the adjacent cell, which have been taken from the Mechanical Engineering CAD qualification pack, job role holder must have a knowledge of facts, principles, processes, and	4.5

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		general concepts, in a field of work or study.	
Responsibility	The various purposes and uses for CAD designs • Current internationally recognized standards (ISO) • Standards currently used and recognized by industry • Health and safety legislation and best practice including specific safety precautions when using a visual display unit (VDU) and in a work station environment • Relevant theory and applications of mathematics, physics, and geometry • Technical terminology and symbols • Recognized IT systems and related professional design software • The importance of accurate and clear presentation of designs to potential users • The importance of effective communications and inter-personal skills between co-workers, clients and other related professionals • The importance of maintaining knowledge and skill in new and developing technologies	As can be inferred from the knowledge and understanding related points mentioned in the adjacent cell, the Mechanical Engineering CAD must take responsibility for own work and learning and some responsibility for others' works and learning. Hence NSQF level for this descriptor is 4.5	4.5

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	• The role of providing innovative and creative solutions to technical and design problems and challenges Computer operating systems to be able to use and manage computer files and software correctly • Peripheral devices used in the CAD process • Specific specialist technical operations within design software • The range, types and uses of specialist product available to support and facilitate the CAD process • The production process for designs • The limitations of design software • Formats and resolutions • The use of plotters, printers, 3D printers and 3D scanners. Programmes in order to configure the parameters of the software • Computer operating systems in order to use and manage computer files and software • Mechanical systems and their functionality • Principles of technical drawing		

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	• How a component is assembled The use of lighting, scenes and decals to produce photo rendered images • How to demonstrate the working of an image Materials and processes for obtaining unprocessed work pieces: • Castings • Welding • Machining • Simulation • The process to transfer real objects to 3D images/3D models and then to technical drawings Working drawings in ISO standard together with any written instructions • Standards for conventional dimensioning and tolerancing and geometric dimensioning and tolerancing appropriate to the ISO standard • Rules of technical drawing and the prevailing latest ISO standard to govern these rules • • The use of manuals, tables, list of standards, and product catalogues		

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Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment
Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Computer Hardware	High-performance desktop or laptop computer with a powerful processor, sufficient RAM, and a dedicated graphics card. Large and high-resolution monitor(s) for better visualization.	1 each
2.	CAD Software	Choose a CAD software package based on your needs and preferences.	1 each
3.	Input Devices		1 each
4.	Storage		1 each
5.	Printer/Plotter		1 each
6.	3D Scanner		1 each
7.	Simulation and Analysis Tools (optional)	Finite Element Analysis (FEA) software for structural analysis. Computational Fluid Dynamics (CFD) software for fluid flow analysis.	1 each
9.	Collaboration Tools		1 each
10.	Training Resources		1 each
11.	Backup Solutions		1 each
12.	CAD Workstation/Desk		1 each

Classroom Aids
The aids required to conduct sessions in the classroom are:

1. Laptop
2. Projector
3. Cloud access
4. Learning management system

Annexure: Industry Validations Summary
Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)

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

Data to be provided year-wise for next 3 years

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

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

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

1.
2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

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Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on:
https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☐Theory/ Lectures - Imparting theoretical and conceptual knowledge	Laptop, Projector, Projecting Screen and LMS.	1:1
2	☐Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Laptop, Projector, Projecting Screen and LMS.	1:1
3	☐Showing Practical Demonstrations to the learners	As per tool list attached	NA
4	☐Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	As per tool list attached	NA
5	☐Tutorials/ Assignments/ Drill/ Practice	As per tool list attached	NA
6	☐Proctored Monitoring/ Assessment/ Evaluation/ Examinations	As per tool list attached	NA
7	☐On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	As per tool list attached	NA

Annexure: 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
Work organization and management(MCAD) CSC/N0459 V1.0	**PC1.** Apply consistently the internationally recognized standards (ISO) and standards currently used and recognized by industry			-	-
	PC2. Apply and promote health and safety legislation and best practice in the workplace			-	-
	PC3. Apply a thorough knowledge and understanding of mathematics, physics and geometry to CAD projects			-	-
	PC4. Access and recognize standard component and symbol libraries				

				-	-
	PC5. Use and interpret technical terminology and symbols used in preparing and presenting CAD drawings			-	-
	PC6. Use recognized IT systems and related professional design software to consistently produce high quality designs and interpretations			-	-
	PC7. Deal with systems problems such as error messages received, peripherals which do not respond as expected, and faults with equipment or connecting leads			-	-
	PC8. Produce work that consistently meets high standards of accuracy and clarity in the design and presentation of designs to potential users			-	-
	PC9. Effectively communicate and use interpersonal skills with co-workers, clients, and other related professionals to ensure that the CAD process meets requirements			-	-
	PC10. Describe to clients and other professionals the role and purposes for CAD designs			-	-
	PC11. Explain complex technical images to experts and non-experts, highlighting key elements			-	-
	PC12. Maintain proactive continuous professional development in order to maintain current knowledge and skill in new and developing technologies and practices			-	-
	PC13. Provide and apply innovative and creative solutions to technical and design problems and challenges			-	-
	PC14. Visualize desired products in order to fulfil clients' briefs accurately			-	-
	PC15. Apply consistently the internationally recognized standards (ISO) and standards currently used and recognized by industry			-	-
	PC16. Apply and promote health and safety legislation and best practice in the workplace			-	-
	PC17. Apply a thorough knowledge and understanding of mathematics, physics and geometry to CAD projects			-	-
	PC18. Access and recognize standard component and symbol libraries			-	-

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	PC19. Use and interpret technical terminology and symbols used in preparing and presenting CAD drawings			-	-
	Total Marks	**30**	**70**		
Materials, software, and hardware CSC/N0447 V1.0	**PC1.** Power up the equipment and activate the appropriate modelling software			-	-
	PC2. Set up and check peripheral devices such as keyboard, mouse, 3D mouse,plotter, and printer			-	-
	PC3. Use computer operating systems and specialist software to create and manage and store files proficiently			-	-
	PC4. Select correct drawing packages from an on-screen menu or graphical equivalent			-	-
	PC5. Use various techniques for accessing and using CAD software such as a mouse, menu, or tool bar			-	-
	PC6. Configure the parameters of the software			-	-
	PC7. Plan production processes effectively to produce efficient work processes			-	-
	PC8. Use plotters and printers to print and plot work			-	-
	Total Marks	**30**	**70**		
Perform 3D modelling CSC/N0448 V1.0				-	-
	PC1. Model components, optimizing the constructive solid geometry			-	-
	PC2. Create families of components			-	-
	PC3. Ascribe characteristics to the materials (density)			-	-
	PC4. Ascribe colours and textures to the components			-	-
	PC5. Produce assemblies from 3D models of components			-	-
	PC6. Structure assemblies (sub-assemblies)			-	-
	PC7. Review base information to plan work effectively			-	-

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	PC8. Access information from data files			-	-
	PC9. Model and assemble base components of project pieces			-	-
	PC10. Estimate approximate values for any missing dimensions			-	-
	PC11. Assemble modelled parts into sub-assemblies as required			-	-
	PC12. Apply graphics decals such as logos as required onto images			-	-
	PC13. Save work for future access			-	-
	Total Marks	30	70		
Create photo rendered images (2D) and creation of animations CSC/N0449 V1.0	**PC1.** Save and label images to access for further use			-	-
	PC2. Interpret source information and accurately apply to the computer-generated images			-	-
	PC3. Apply material properties using information supplied from source drawings			-	-
	PC4. Create photo rendered images of components or assemblies			-	-
	PC5. Adjust colors, shading, backgrounds and camera angles to highlight key images			-	-
	PC6. Use camera settings to show better angles of the project			-	-
	PC7. Print completed images for presentation purposes			-	-
	PC8. Create functions relative to the operation of the system being designed, using industry programmes			-	-
	PC9. Create animations that demonstrate how different parts work are assembled			-	-
	Total Marks	30	70		

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Reverse engineering of physical models CSC/N0450 V1.0	**PC1.** Determine dimensions on physical parts by using industry accepted instruments				
	PC2. Create freehand sketches				
	PC3. Use measuring instruments to produce accurate replicas				
	PC4. Perform 3D Scans of models				
	Total Marks	30	70		
Technical drawing and measuring CSC/N0451 V1.0	**PC1.** Generate working drawings in ISO standard together with any written instructions				
	PC2. Apply standards for conventional dimensioning and tolerancing and geometric dimensioning and tolerancing appropriate to the ISO standard				
	PC3. Apply the rules of technical drawing and the prevailing latest ISO standard to govern these rules				
	PC4. Use manuals, tables, lists of standards, and product catalogues				
	PC5. Insert written information such as explanation balloons and parts lists with more than one column using annotation styles that meet ISO standards				
	PC6. Create 2D detail technical drawings				
	PC7. Create exploded isometric views				
	Total Marks	30	70		
	Grand Total	600			

Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

<1. Assessment System Overview:

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

2. Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME
- Questions are mapped to the specified assessment criteria

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- Assessor must be ToA certified & trainer must be ToT Certified

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding

5. Method of verification or validation:

- Surprise visit to the assessment location

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored

On the Job:

1. Each module (which covers the job profile of Automotive Service Assistant Technician) will be assessed separately.
2. The candidate must score 60% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
   - Videos of Trainees during OJT
4. Assessment of each Module will ensure that the candidate is able to:

- Effective engagement with the customers
- Understand the working of various tools and equipment

Annexure: Acronym and Glossary

Acronym

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

Glossary

Term	Description
National Occupational Standards (NOS)	NOS 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

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Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf