

QUALIFICATION FILE

Aerospace Structural Fitter

☒ 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: 3

Submitted By:

Aerospace And Aviation Sector Skill Council

AASSC, C/o Dynamatic Manufacturing Ltd,

Plot No. V77 & 78, 1st Main Road, 2nd stage

Peenya Industrial Area, Bengaluru- 560058

Table of Contents

Section 1: Basic Details	3
Section 2: Module Summary	5
NOS/s of Qualifications	5
Mandatory NOS/s:	5
Elective NOS/s:	6
Optional NOS/s:	6
Assessment - Minimum Qualifying Percentage	7
Section 3: Training Related	7
Section 4: Assessment Related	7
Section 5: Evidence of the need for the Qualification	8
Section 6: Annexure & Supporting Documents Check List	8
Annexure: Evidence of Level	9
Annexure: Tools and Equipment (Lab Set-Up)	13
Annexure: Industry Validations Summary	14
Annexure: Training & Employment Details	15
Annexure: Detailed Assessment Criteria	16
Annexure: Assessment Strategy	25
Annexure: Acronym and Glossary	26

Section 1: Basic Details

1.	Qualification Name	Aerospace Structural Fitter											
2.	Sector/s	Aerospace And Aviation Sector Skill Council											
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i> Version :3.0 QG-03-AA-04189-2025-V2-AASSC		Qualification Name of existing/previous version: Aerospace Structural Fitter/ Version 2.0									
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>	b. Aerospace Structural Fitter											
5.	National Qualification Register (NQR) Code &Version <i>(Will be issued after NSQC approval)</i>	QG-03-AA-04189-2025-V2-AASSC	6. NCrf/NSQF Level: 3										
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	certificate											
8.	Brief Description of the Qualification	An aerospace structural fitter is responsible for assembling, installing, and aligning aircraft components, ensuring structural integrity and safety. This role requires expertise in interpreting blueprints, using precision tools, and working with various materials like metal and composites. The qualification typically involves specialized training, hands-on experience, and adherence to industry safety standards.											
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>01.</td> <td>10th Pass or Equivalent</td> <td></td> </tr> <tr> <td>02.</td> <td>Previous relevant Qualifications of NSQF level 2 With 3 years of relevant Experience</td> <td></td> </tr> </tbody> </table> b. Age: 18			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	01.	10th Pass or Equivalent		02.	Previous relevant Qualifications of NSQF level 2 With 3 years of relevant Experience	
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)											
01.	10th Pass or Equivalent												
02.	Previous relevant Qualifications of NSQF level 2 With 3 years of relevant Experience												
10.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	21	11. Common Cost Norm Category (I/II/III) <i>(wherever applicable):</i> I										
12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	Nil											

13.	Training Duration by Modes of Training Delivery (<i>Specify Total Duration as per selected training delivery modes and as per requirement of the qualification</i>)	☒ Offline ☐ Online ☐ Blended <table border="1" data-bbox="958 172 2049 347"> <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>285:00</td> <td>315:00</td> <td>30:00</td> <td>00:00</td> <td>630:00</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>						Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	285:00	315:00	30:00	00:00	630:00	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																				
Classroom (offline)	285:00	315:00	30:00	00:00	630:00																				
Online																									
14.	Aligned to NCO/ISCO Code/s (<i>if no code is available mention the same</i>)	NCO-2015/2144.0900																							
15.	Progression path after attaining the qualification (<i>Please show Professional and Academic progression</i>)	,Aerospace Structural Fitter																							
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Nil																							
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	Women are encouraged to pursue the Aerospace Structural Fitter job role through government skill programs, scholarships, and industry-led diversity hiring initiatives. Specialized training, workplace safety measures, and flexible work policies help create a supportive environment. Mentorship, awareness campaigns, and apprenticeship opportunities further boost their participation in the aerospace sector.																							
20.	Are Greening/ Environment Sustainability Aspects Covered (<i>Specify the NOS/Module which covers it</i>)	☐ Yes ☒ No																							
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☐ Yes ☐ No Colleges ☒ Yes ☐ No																							
22.	Name and Contact Details of Submitting / Awarding Body SPOC (<i>In case of CS or MS, provide details of both Lead AB & Supporting ABs</i>)	Name: Aerospace and Aviation Sector Skill Council Email: touchdown@aassc.in Contact No.: 080-28398506 Website: https://www.aassc.in/																							
23.	Final Approval Date by NSQC: 08/05/2025	24. Validity Duration: 03 Years			25. Next Review Date:08/05/2028																				

:

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 to the 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.	Module 1: Understand the Assembly Drawings.	AAS/N1616: N0102- NOS Version No. – 1.0	Core	3	2	27:00	30:00	03:00	00:00	60:00	40	60	-	-	100	10
2.	Module 2: Understanding the Different Drilling Operations.	AAS/N1617: N0102- NOS Version No. – 1.0	Core	3	3	40:00	45:00	05:00	00:00	90:00	40	60	-	-	100	10
3.	Module 3: Understanding of Different types of Riveting Operations	AAS/N1618: N0102- NOS Version No. – 1.0	Core	3	3	40:00	45:00	05:00	00:00	90:00	40	60	-	-	100	15
4.	Module 4: Understand the Reaming Operation	AAS/N1619: N0102- NOS Version No. – 1.0	Core	3	3	40:00	45:00	05:00	00:00	90:00	40	60	-	-	100	15
5.	Module 5: Understand the Canopy Matching	AAS/N1620: N0102- NOS Version No. – 1.0	Core	3	3	40:00	45:00	05:00	00:00	90:00	37	63	-	-	100	15

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)
6.	Module 6: Perform RMA installation of the Aircraft	AAS/N1621: N0102- NOS Version No. – 1.0	Core	3	2	28:00	30:00	02:00	00:00	60:00	40	60	-	-	100	10
7.	Module 7: Mixing of Sealants and Application of Sealants	AAS/N1622: N0102- NOS Version No. – 1.0	Core	3	3	40:00	45:00	05:00	00:00	90:00	30	70	-	-	100	15
8.	Employability Skills	DGT/VSQ/N 0102- NOS Version No. – 1.0	Non-core	3	2	30:00	30:00	00:00	00:00	60:00	20	30	-	-	50	10
Duration (in Hours) / Total Marks					21	285:00	315:00	30:00	00:00	630:00	287	463	-	-	750	100

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Nil															
2.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

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

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying Percentage

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

Minimum Pass Percentage – Aggregate at qualification level: 60 % (Every Trainee should score specified minimum aggregate passing percentage at qualification level 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)	I.T.I/Diploma in Mechanical /Fitter with 2- 3 years' Experience in relevant field.
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	I.T.I/Diploma in Mechanical /Fitter with 5- 10years' Experience in relevant field.
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	Nil

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	I.T.I/Diploma in Mechanical /Fitter with 2- 3 years' Experience in relevant field.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	I.T.I/Diploma in Mechanical /Fitter with 2- 3 years' Experience in relevant field.

3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	I.T.I/Diploma in Mechanical /Fitter with 5- 10 years' Experience in relevant field.
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Online/offline
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

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): Yes
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 10
5.	Estimated nos. of persons to be trained and employed:
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes I

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 <i>(Mandatory)</i>	Attached
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	Attached
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	Attached
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Attached
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	

7.	Annexure: Acronym and Glossary (<i>Optional</i>)	<i>Attached</i>
8.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	<i>Attached</i>
9.	Supporting Document: Career Progression (<i>Mandatory - Public view</i>)	<i>Attached</i>
10.	Supporting Document: Occupational Map (<i>Mandatory</i>)	<i>Attached</i>
11.	Supporting Document: Assessment SOP (<i>Mandatory</i>)	<i>Attached</i>
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	The Aerospace Structural Fitter is responsible for carrying out structural assembly of aircraft/ helicopters and perform activities like drilling, reaming, riveting of structures, applying sealing compound etc	The job holder is responsible for carrying out activities in involving in structural assembly of aircrafts/ helicopters and perform activities like drilling, reaming, riveting of structures, applying sealing compound etc. Since it does not involve working in a familiar, predictable routine situation of clear choice, role does not qualify for Level 4 For ex: visually inspect the structural components received from workshop for final assembly to identify any damages to the component, review the assembly drawings and procedures for the structural components and ascertain that all required tools and consumables are available as per the drawings and material requirement sheet, inspect the documentation received with structural components and ascertain that all documentation is in line with productions standards and/or organisation standard operating procedures , record any findings or discrepancies and report the same through appropriate channels as per organization procedures etc., As the job role holder is not expected to carry out	3

		process that are repetitive on regular basis with little application for ex : inspect the documentation received with structural components and ascertain that all documentation is in line with productions standards and/or organisation standard operating procedures etc., hence the job role cannot be pegged at level 2	
Professional and Technical Skills/ Expertise/ Professional Knowledge	The Aerospace Structural Fitter on the job needs to know and understand how to: comprehend the organisation's safety and security policies and procedures, comprehend the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference, report any identified breaches of safety, and security policies and procedures to the designated person, coordinate with other resources at the workplace (within and outside the organisation) to achieve safe and secure environment, identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if it falls within the limits of individual's authority, report any hazards outside the individual's authority to the relevant person in line with organisational procedures and regulatory guidelines, Inspect structural components before assembly, Handling structural components, Assembly of structural components (metal, nonmetal), Loading of	The Aerospace Structural Fitter on the job needs to know and understand how to: For Ex : mark the mating parts as per assembly drawings and ensure availability of components and tools to assemble the components, arrange the mating parts in sequence for ease of handling during assembly , avail required tools and fasteners for assembly, pre-assemble the mating parts using appropriate jigs and fixtures etc., Since all the above-mentioned areas are related to know basic facts, process and principle applied in trade of employment, the role qualifies for Level 3. As the job holder does not require material, tools and application in a limited context, understands context of work and quality. For ex; For fastening operations of the structural components select the fasteners as per work instruction/ process sheet, clean all the parts and select appropriate screw, bolts and nuts , align the holes and insert the appropriate fastener in each hole, apply appropriate sealing compound along with the fasteners, tighten the fasteners on metal or composite parts using tightening tool, apply the non-corrosive chemical (primer) as per the work instruction/ process sheet, offer the fastened parts to supervisor or inspection team etc., Hence it cannot be pegged at level 2	3

	components on jigs and fixture, Perform drilling operation, Perform reaming operation, Perform different riveting operation, Perform fastening operation, mixing sealing compound and perform sealing operation, Perform Aircraft/ Helicopter assembly etc.,		
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	The user/individual on the job needs to know and understand how to: make decisions on a suitable course of action or response if permitted by the authority matrix, monitor efficient functioning of all activities, plan and organize work to achieve targets and deadlines, communicate with customers and other stakeholders in a courteous manner, maintain cordial work relationship, identify trends/common causes for errors and suggest possible solutions to the supervisor / management, identify and correct errors, analyse best possible solutions (cost, time, effort, etc.) suited for operations, concentrate on task at hand and complete it without errors, apply balanced judgments to different situations etc.	The job holder is expected to recall and demonstrate practical skills, routine and repetitive activities in a narrow range of application. For instance, the job holder has to respond if permitted by the authority matrix, monitor efficient functioning of all activities, plan and organise work to achieve targets and deadlines, maintain effective work relationship, identify trends/common causes for errors and suggest possible solutions to the supervisor / management, identify and correct errors, analyse best possible solutions (cost, time, effort, etc.) suited for operations, concentrate on task at hand and complete it without errors , apply balanced judgments to different situations, record the assembly process and materials used for assembly in the documentation as per organisation standards, record the details of the operations carried out as per organisation standards and procedures etc. All these activities are mostly repetitive and have a narrow range of application, hence qualifying the role for a Level 3	3
Broad Learning Outcomes/Core Skill	The person on the job needs to know and understand how to: write basic level notes and observations, draw basic level drawings and charts, read & comprehend documents and	The person on the job needs to know and understand how to: record the assembly process and materials used for assembly in the documentation as per organisation standards, , discuss task lists and job requirements with co-workers, effectively	3

	notes, process documentation & Control Plan, interpret/ comprehend the information given in the documents and notes, read and interpret symbols given on equipment and work area, read electrical drawings/ engineering drawings, sketches etc.,	communicate information to team members, question supervisor in order to understand the nature of the problem attentively listen with full attention and comprehend the information given by the speaker etc., Hence, the job qualifies for level 3.	
Responsibility	The Aerospace Structural Fitter is responsible for Compulsory: 1. Module 1: Understand the Assembly Drawings. 2. Module 2: Understanding the Different Drilling Operations. 3. Module 3: Understanding of Different types of Riveting Operations 4. Module 4- Understand the Reaming Operation 5. Module 5: Understand the Canopy Matching 6. Module 6: Perform RMA installation of the Aircraft 7. Module 7: Mixing of Sealants and Application of Sealants 8. DGT/VSQ/N0102: Employability Skills	The job holder will be responsible for a limited range of jobs under supervision involving: Perform structural component assembly, follow safety and security procedures, maintain 5S at the work premises and work effectively in a team Hence, this role qualifies for Level 3. It does not comprise of any supervisory activities and being supervised by supervisor at level 4.	3

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	Black/White Board & Markers		1
2	PC based projection system		1
3	Computers aided instructional packages/video films		1
4	Concerned wall charts		4
5	First aid kit		3
6	Basic fire safety aids		1
7	Rivet gun (as appropriate)		5
8	Rivets		5
9	Drill Gun (pneumatic)		5
10	PPE		30
11	Filing/de-burring tools		10
12	Band saw		1
13	Drilling Machine		5
14	Cutting tools		5
15	Screwdriver set		10
16	Surface plate		10
17	Height Gauge		10
18	Grinder tool (combination of static and handheld)		10
19	Machine vice		10
20	Clamps & Studs		5
21	Cutting pliers		6
22	Cutting oils		5
23	Lubricants		5
24	Centering device		2
25	End mills		5
26	Tool holders		5
27	Touch probes		1
28	Plunger Dial (with stand)		2
29	Verniers (Digital/Analogue)		2

30	Drill bits		5
31	Tap Wrench		5
32	Hand taps		5
34	Torque wrench		5
35	Micrometer		10
36	Layout marking tools		6
37	Vacuum cleaner		2
38	Sealant		5
39	Sealant application tools		5
40	Humidity sensor device		1
41	Jigs & fixtures		5
42	PC terminal with CAD/CAM software		1
43	Reamers		5

Classroom Aids

The aids required to conduct sessions in the classroom are:

- 1.
- 2.

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)
	Air Works	Vinod Kumar Shukla	Associate Vice President-Quality	Air Works Commercial Aviation MRO	+91-9004113851	vinodkumar.shukla@AIRWORKS.IN>	
	HAL	Mr. Suresh Muthu	DGM	HAL, Bangalore	9902132788		
	MaxAerospace and Aviation pvt.ltd	Venkatesh Maligi	Quality Manager	Hangar No. C1, Juhu Aerodrome, Juhu, Mumbai-400 056. INDIA	+91-08779159751	venkatesh.maligi@maxaerospace.com	
	Vikram Aviation Pvt Ltd	Aditya Kumar	Manger	Vikram Aviation Pvt Ltd	7531929493	accounts@vikramaviation.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
2025	500					
2026	500					
2027	500					

Data to be provided year-wise for the 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
	2022	685	606	606									
	2023	-	-	-									
	2024	181	161	161									

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. RPL

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

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		

2	☐ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners		
3	☐ Showing Practical Demonstrations to the learners		
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training		
5	☐ Tutorials/ Assignments/ Drill/ Practice		
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations		
7	☐ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training		

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
AAS/N1616: Understand the Assembly Drawings.	<i>Basic Knowledge of the Drawing</i>				
	PC1: Able to read the drawing	4	6	-	-
	PC2: Know the views of drawing i.e. plan, isometric etc.	4	6	-	-
	PC3: Able to identify sections of drawing.	4	6	-	-
	PC4: Know the types of lines used to differentiate between the assembly part positions.	4	6	-	-
	PC5: Know the signs of drawing like finishing triangles, hole size, thickness, length, width etc.	4	6	-	-
	PC6: Know to identify the scale of drawing	4	6	-	-
	PC7: Able to correlate the drawing and technology	4	6	-	-
	PC8: Know to identify the position numbers of the part and able to identify the part number in material schedule (MS)	4	5	-	-
	PC9: Know how to see the section of drawing in different zones	4	6	-	-
	PC10: Mark the center of the hole with a punch.	4	6	-	-
	NOS Total	40	60	-	-
AAS/N1617: Understanding the Different Drilling Operations.	<i>Perform different drilling operation</i>				
	PC1: Read the process information sheet & drawing and operations.	3	5	-	-
	PC2: Check and inspect the parts supplied for physical / dimensional variation.	3	5	-	-
	PC3: Check the documentation of all parts and its identification with respect to documents.	3	5	-	-

	PC4: Marking on the part according to drawing / technology/ reference tool.	3	5	-	-
	PC5: Check whether the component having proper edge distance and other dimensions prior to carrying out drilling operation.	3	5	-	-
	PC6: Select the proper tool as mentioned in the technology.	3	5	-	-
	PC7: Check the machinability of tool i.e. like sharpness, size etc.	4	5	-	-
	PC8: Decide the number of stages in which the hole is to be enlarges as per size and its steps.	3	5	-	-
	PC9: Select the tools as per number of stages in which drilling is to be carried out.	4	5	-	-
	PC10: Mark the centre of the hole by punch or perform drilling on pilot holes.	4	5	-	-
	PC11: After each stage check the dimension of the operation performed by tool mentioned in the technology.	3	5	-	-
	PC12: Deburr the hole by tool as mentioned in technology	4	5	-	-
	NOS Total	40	60	-	-
AAS/N1618: Understanding of Different types of Riveting Operations	<i>Perform different riveting operations</i>				
	PC1: Read the process information sheet & drawing and operations.	3	3	-	-
	PC2: Check and inspect the parts supplied for physical / dimensional variation.	3	3	-	-
	PC3: Check the documentation of all parts and its identification with respect to documents.	3	3	-	-
	PC4: Marking on the part according to drawing / technology/ reference tool.	3	3	-	-
	PC5: Check whether the component having proper cleaning for riveting operation.	3	4	-	-
	PC6: Select the proper tool as mentioned in the technology.	3	4	-	-
	PC7: Select the rivet as mentioned in the technology.	3	4	-	-
	PC8: Clean all the parts and rivets with naphtha for riveting.	3	4	-	-
	PC9: Now parts are tech. bolted, and rivets are inserted on holes with primer.	2	4	-	-
	PC10: If sealing compound is called on technology, then apply sealing instead of primer.	2	4	-	-
	PC11: Do the riveting with the rivet gun on one side and bucking bar on another side.	2	4	-	-

	PC12: Measure the bucking head and bucking length by Rivet Gauge.	2	4	-	-
	PC13: If riveting is improper then rivets it and install new rivet and do the riveting.	2	4	-	-
	PC14: Document the dimension.	2	4	-	-
	PC15: Apply the non-corrosive chemical (Primer) as per the technology.	2	4	-	-
	PC16: Offer to supervisor and inspect.	2	4	-	-
	NOS Total Marks	40	60	-	-
AAS/N1619: Understand the Reaming Operation	<i>Perform reaming operation</i>				
	PC1: Read the process sheet & drawing	3	3	-	-
	PC2: Check and inspect the parts supplied for physical / dimensional variation	3	3	-	-
	PC3: Check the documentation of all parts its identification with respect to documents	3	3	-	-
	PC4: Check the internal diameter of bush/part by tool mentioned in technology.	3	3	-	-
	PC5: Select proper tools and reamers as mentioned in technology	3	4	-	-
	PC6: Check the machinability of reamers i.e. like sharpness, size etc.	3	4	-	-
	PC7: Select the proper coolant for reaming operation as mentioned in the technology	3	4	-	-
	PC8: Set the speed of rotation and feed rate for reaming operation as mentioned in the technology	3	4	-	-
	PC9: Select the proper sequence of reamers as per dimension, tolerance and surface finish mentioned in the technology	2	4	-	-
	PC10: Reaming of holes as per sequence of reamers selected.	2	4	-	-
	PC11: Apply coolant in between the reaming operation as mentioned in the technology	2	4	-	-
	PC12: After reaming holes, clean the reamers and reamed holes with cotton napkin as mentioned in technology.	2	4	-	-
	PC13: Check the final dimension, surface finish according to drawing and technology.	2	4	-	-
	PC14: Clean the tool and gauges with the help of cotton napkin as mentioned in the technology.	2	4	-	-
	PC15: Document the dimension.	2	4	-	-
	PC16: Apply the non-corrosive chemical as per technology.	2	4	-	-
	NOS Total	40	60	-	-
	<i>To perform Canopy Matching</i>				

AAS /N1620: Understand the Canopy Matching	PC01: Read the process sheet & drawing	1	1	-	-
	PC02: Check and inspect the parts supplied for physical / dimensional variation	1	1	-	-
	PC03: Check the documentation of all parts its identification with respect to documents.	1	1	-	-
	PC04: Prepare Cylinder to be installed, check its certificate and install with bolting using proper tool and bolts.	1	1	-	-
	PC05: Check whether the component having proper edge distance and other dimensions prior to carrying out operation	1	1	-	-
	PC06: Install hydraulics pipe connection to cylinder IN and OUT of hydraulic trolley.	1	1	-	-
	PC07: Operate hydraulic trolley and ensure proper function of cylinder.	1	1	-	-
	PC08: Prepare Suspension unit to be installed and check its certification. Remove hatch covers with screw gun and place hatch cover and screws in proper place	1	1	-	-
	PC09: Install cylinder bolting with suspension unit.	1	2	-	-
	PC10: centralize the suspension unit and install shim according to it.	1	2	-	-
	PC11: Drilled the holes to shim and make countersink on it and install shim with sealant. Riveting is to be carried out with proper gun.	1	2	-	-
	PC12: Offer to inspect the working of suspension unit by operating trolley.	1	2	-	-
	PC13: Prepare The Canopy to be used for matching and check its certification. Check marks on bubble and apply protective casing on it.	1	2	-	-
	PC14: Operate hydraulic trolley and check the touching area of canopy and mark on it. Trimmed touching area of canopy with speed gun and ensure proper clearance. Proper gap is to be maintained for sealing hose installation.	1	2	-	-
	PC15: Repeat the operation until canopy fully matched and proper clearance done.	1	2	-	-

PC16: After final matching refer to inspection and proper clearance chart is to be filled and documented	1	2	-	-
PC17: Install rollers according to technology with proper clearance and drilled the holes and bolted.	1	2	-	-
PC18: Offer to inspect the working of rollers by operating trolley.	1	2	-	-
PC19: Install Dowel Pins with liquid shim i.e. ZP-3. Holes are drilled and dowel pins to be bolted	1	2	-	-
PC20: Offer to inspect the working of dowel pins by operating trolley.	1	2	-	-
PC21: Install Canopy Supports with help of drilling fixture, drilled the holes ensure proper clearance.	1	2	-	-
PC22: Install Proposer with help of template, drilled the holes and ensure proper clearance.	1	2	-	-
PC23: Final bolting of Canopy supports and pyro pusher has to be done with sealant.	1	2	-	-
PC24: Offer to inspect the working of canopy support and pyro pusher by operating trolley.	1	2	-	-
PC25: Install manual opening handle and manual mechanism according to technology.	1	2	-	-
PC26: Offer to inspect the working of manual opening mechanism by operating manual opening handle.	1	2	-	-
PC27: Install hook to suspension unit with help of filler gauge and proper gap to be maintained.	1	2	-	-
PC28: Offer to inspect the gap of hook and reading should be documented.	1	2	-	-
PC29: Remove the canopy and fixed the canopy on sealing hose installation fixture.	1	2	-	-
PC30: Remove paint and other deburrs on sealing hose channel.	1	1	-	-
PC31: Apply protective cloth with help of glue in sealing hose channel.	1	2	-	-
PC32: Clean the sealing hose according to technology and apply glue to install sealing hose in channel.	1	2	-	-

	PC33: Fixture has to be installed to hold the sealing hose tightly apply pressure in sealing hose to pressurize it.	1	2	-	-
	PC34: Offer to inspect the final installation of sealing hose.	1	1	-	-
	PC35: Finally install all canopy covers with help of screw and inspect proper safety of screw	1	2	-	-
	PC36: Apply noncorrosive paste on trimming surface and get primer on that.	1	2	-	-
	PC37: Mark red marking on moving part.	1	1	-	-
	NOS Total	37	63	-	-
AAS /N1621: Perform RMA installation of the Aircraft	<i>To Perform RMA installations of the aircraft</i>			-	-
	PC01: Read the process sheet & drawing	6	6	-	-
	PC02: Checking Certificates to make sure if the unit is fit to be installed.	6	9	-	-
	PC03: Perform manual checks on RMA to make sure its proper working.	6	9	-	-
	PC04: Installation of RMA in the aircraft.	6	9	-	-
	PC05: Coupling of the parts with other parts maintaining proper tolerance.	6	9	-	-
	PC06: Cleaning of area after installation.	5	9	-	-
	PC07: Self certification for proper installation of the unit.	5	9	-	-
	NOS Total	40	60	-	-
AAS /N1622: Mixing of Sealants and Application of Sealants	<i>Perform different operation of mixing of sealing compound</i>			-	-
	PC1: Read & understand the tags of various sealing compound received from central lab.	1	2	-	-
	PC2: Check & visually inspect the sealing compound received for physical variation.	1	3	-	-
	PC3: Check the documentation /tags ,MTRs of all sealing compound, chemicals its identification	1	2	-	-
	PC4: Marking on the bins /cans of sealing compound according to tags ,MTRs	1	3	-	-
	PC5: Check whether the components are being properly mixed & cured by carrying out sample mixing of sealing compound.	1	2	-	-
	PC6: Select proper tool as mentioned in technology	1	3	-	-
	PC7: Check the documentation /tags ,MTRs of all sealing compound, chemicals for expiry dates	1	2	-	-
	PC8: Check the requisition slip for format, AC no, task no, qty, sign of supervisor, inspector.	1	3	-	-

PC9: Mix the sealing compound & other variants homogeneously as per the technology.	1	2	-	-
PC10: Check for quality.	1	3	-	-
PC11: Timely entries & documentation of sealing slips /requisition	1	2	-	-
PC12: Maintaining the documentation /requisition slips.	1	3	-	-
PC13: Continuous check on the temperature & humidity of sealing room	1	2	-	-
<i>Perform different Sealing compound applications</i>			-	-
PC14: Read the process information sheet & drawing and operations.	1	2	-	-
PC15: Check and inspect the parts supplied for physical / dimensional variation.	1	3	-	-
PC16: Check the documentation of all parts and its identification with respect to documents.	1	2	-	-
PC17: Marking on the part according to drawing / technology/ reference tool.	1	3	-	-
PC18: Check whether the component having proper cleaning for sealing operation.	1	3	-	-
PC19: Select the proper tool as mentioned in the technology.	1	3	-	-
PC20: Select the parts for sealing as mentioned in the technology.	1	2	-	-
PC21: Apply Sub-layer P-9b or P-11 on the parts with hairbrush for sealing as mentioned in technology.	1	2	-	-
PC22: Wait for 15 to 30 minutes to soak for Sub-layer as mentioned in technology.	1	2	-	-
PC23: Now apply sealing compound with spatula on the parts where Sub-layer is applied.	1	2	-	-
PC24: Now parts are tech. bolted, and rivets or bolt are inserted on holes.	1	2	-	-
PC25: Do the riveting or bolting as mentioned in technology.	1	2	-	-
PC26: Measure the bucking head and bucking length by Rivet Gauge or safety threads on nuts.	1	2	-	-
PC27: If there is no safety threads on nuts then install a new long bolt and nuts.	1	2	-	-
PC28: If riveting is improper then rivets it and install a new rivet and do the riveting.	1	2	-	-
PC29: Document the dimension.	1	2	-	-

	PC30: Apply the non-corrosive chemical (Primer) as mentioned in the technology.	1	2	-	-
	NOS Total	30	70	-	-
DGT/VSQ/N0102: Employability Skills	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. identify employability skills required for jobs in various industries	-	-	-	-
	PC2. identify and explore learning and employability portals	-	-	-	-
	<i>Constitutional values – Citizenship</i>	1	1	-	-
	PC3. 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.	-	-	-	-
	PC4. follow environmentally sustainable practices	-	-	-	-
	<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
	PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
	PC6. 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	-	-	-	-
	<i>Basic English Skills</i>	2	3	-	-
	PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
	PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
	PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
	<i>Career Development & Goal Setting</i>	1	2	-	-
	PC10. understand the difference between job and career	-	-	-	-
	PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
	<i>Communication Skills</i>	2	2	-	-
	PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
	PC13. work collaboratively with others in a team	-	-	-	-

<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and computing income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processors, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-

	PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
	PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
	PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
	PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
	NOS Total	20	30	-	-
	Grand Total	287	463	-	-

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.
- Check the Assessment start and end time to be as 10:00 AM and 05:00 PM
- Check the Eligibility of Attendance

3. Assessment of 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
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the Assessment Guidelines to conduct the Assessment

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location

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

5. Method of verification or validation:

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

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage • Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

On the Job:

1. Each module (which covers the job profile of Aerospace CNC Machinist) 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
 - Answer Sheets of Question Banks
 - Assessing the Logbook entries of Trainees at Employer location
 - Employer Performance Feedback.
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 defines the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf