QUALIFICATION FILE

Drone Operator – Multi Rotor

☒ 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

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 6
Section 3: Training Related 6
Section 4: Assessment Related 7
Section 5: Evidence of the need for the Qualification 7
Section 6: Annexure & Supporting Documents Check List 8
Annexure: Evidence of Level 8
Annexure: Tools and Equipment (Lab Set-Up) 12
Annexure: Industry Validations Summary 13
Annexure: Training & Employment Details 14
Annexure: Blended Learning 15
Annexure: Detailed Assessment Criteria 16
NOS/Module Name 16
Annexure: Assessment Strategy 24
Annexure: Acronym and Glossary 26

Section 1: Basic Details

<table>
<tr><td>1.</td><td>Qualification Name</td><td colspan="2">Drone Operator – Multi Rotor</td></tr>
<tr><td>2.</td><td>Sector/s</td><td colspan="2">Drones/UAVs</td></tr>
<tr><td>3.</td><td>Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐OEM</td><td>NQR Code & version of existing/previous qualification: (change to previous, once approved)
Code: QG-04-AA-04188-2025-V2-AASSC
Version:2.0</td><td>Qualification Name of existing/previous version:
Drone Operator – Multi Rotor</td></tr>
<tr><td>4.</td><td>a. OEM Name
b. Qualification Name
(Wherever applicable)</td><td colspan="2">b. Drone Operator – Multi Rotor</td></tr>
<tr><td>5.</td><td>National Qualification Register (NQR) Code &Version
(Will be issued after NSQC approval)</td><td>QG-04-AA-04188-2025-V2-AASSC</td><td>6. NCrF/NSQF Level: 4</td></tr>
<tr><td>7.</td><td>Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)</td><td colspan="2">Certificate</td></tr>
<tr><td>8.</td><td>Brief Description of the Qualification</td><td colspan="2">A Drone Operator - Multi Rotor is trained to operate multi-rotor drones for various applications, such as aerial photography, inspections, or surveying. They must be knowledgeable in flight regulations, safety protocols, and drone maintenance. Certification and hands-on experience with multi-rotor systems are typically required for the role.</td></tr>
<tr><td>9.</td><td>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</td><td colspan="2">a. Entry Qualification & Relevant Experience:
<table>
<tr><th>S. No.</th><th>Academic/Skill Qualification (with Specialization - if applicable)</th><th>Required Experience (with Specialization - if applicable)</th></tr>
<tr><td>1</td><td>12th Class Pass / Equivalent</td><td>-</td></tr>
<tr><td>2</td><td>10th Class Pass</td><td>2 Years of experience</td></tr>
<tr><td>3</td><td>Previous relevant qualification of NSQF Level 3</td><td>Minimum 3 Years Experience.</td></tr>
</table>
b. Age: 18</td></tr>
<tr><td>10.</td><td>Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))</td><td>13</td><td>11. Common Cost Norm Category (I/II/III) (wherever applicable): I</td></tr>
<tr><td>12.</td><td>Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</td><td colspan="2">Nil</td></tr>
</table>

<table>
<tr><td>13.</td><td>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</td><td colspan="2">☒Offline ☐Online ☐Blended
<table>
<tr><th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>OJT Recommended (Hours)</th><th>Total (Hours)</th></tr>
<tr><td>Classroom (offline)</td><td>150:00</td><td>180:00</td><td>60:00</td><td>00:00</td><td>390:00</td></tr>
<tr><td>Online</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
(Refer Blended Learning Annexure for details)</td></tr>
<tr><td>14.</td><td>Aligned to NCO/ISCO Code/s (if no code is available mention the same)</td><td colspan="2">NCO-2015/3153.9900</td></tr>
<tr><td>15.</td><td>Progression path after attaining the qualification (Please show Professional and Academic progression)</td><td colspan="2">Drone Operator – Multi Rotor, Remote Pilot Instructor</td></tr>
<tr><td>16.</td><td>Other Indian languages in which the Qualification & Model Curriculum are being submitted</td><td colspan="2">Nil</td></tr>
<tr><td>17.</td><td>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</td><td colspan="2">☐ Yes ☒ No URLs of similar Qualifications:</td></tr>
<tr><td>18.</td><td>Is the Job Role Amenable to Persons with Disability</td><td colspan="2">☐ Yes ☐ No
If “Yes”, specify applicable type of Disability:</td></tr>
<tr><td>19.</td><td>How Participation of Women will be Encouraged</td><td colspan="2">To encourage more women to become drone operators, we can offer training programs to help them build the necessary skills. Providing support through mentorship and creating a welcoming work environment will make them feel more confident in the role. Giving women opportunities to lead and succeed in the field will also inspire others to join.</td></tr>
<tr><td>20.</td><td>Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)</td><td colspan="2">☐ Yes ☒ No</td></tr>
<tr><td>21.</td><td>Is Qualification Suitable to be Offered in Schools/Colleges</td><td colspan="2">Schools ☒ Yes ☐ No Colleges ☒ Yes ☐ No</td></tr>
<tr><td>22.</td><td>Name and Contact Details of Submitting / Awarding Body SPOC
(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</td><td colspan="2">Name: Aerospace and Aviation Sector Skill Council
Email: touchdown@aassc.in Contact No.: 080-28398506
Website: https://www.aassc.in/</td></tr>
<tr><td>23.</td><td>Final Approval Date by NSQC: 08/05/2025</td><td>24. Validity Duration: 03</td><td>25. Next Review Date: 08/05/2028</td></tr>
</table>

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.	Conducting pre-flight inspections, checks and operations	AAS/N6301: Nos Version No- 1.0	Core	4	2	20:00	25:00	15:00	00:00	60:00	40	60	-	-	100	23
2.	Flying the mission	AAS/N6302: Nos Version No- 1.0	Core	4	5	60:00	70:00	20:00	00:00	150:00	40	60	-	-	100	34
3.	Conducting post-flight operations, checks and inspections	AAS/N6303: Nos Version No- 1.0	Core	4	2	25:00	25:00	10:00	00:00	60:00	35	65	-	-	100	23
4.	Take action to deal with incidents, accidents, and emergencies in the aviation security environment	AAS/N0501: Nos Version No- 2.0	core	4	1	10:00	15:00	05:00	00:00	30:00	48	52	-	-	100	5
5.	Understanding of Drone Policy and Related Regulatory Compliance	AAS/N6304: Nos Version No- 1.0	Core	4	1	10:00	15:00	05:00	00:00	30:00	40	60	-	-	100	10
6.	Employability Skills	DGT/VSQ/N0102- Nos Version No- 1.0	Non-core	4	2	30:00	30:00	00:00	00:00	60:00	20	30	-	-	50	5
Duration (in Hours) / Total Marks					**13**	**150:00**	**180:00**	**60:00**	**00:00**	**390:00**	**223**	**327**	**-**	**-**	**550**	**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.																
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.																
2.																
Duration (in Hours) / Total Marks																

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.)*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Graduate in Any Specialization with 2-3 years' Experience in Drone Flight Operations
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Graduate in Any Specialization with 5-10 years' Experience in Drone Flight Operations
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)*	Graduate in Any Specialization with 2-3 years' Experience in Drone Flight Operations
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Graduate in Any Specialization with 2-3 years' Experience in Drone Flight Operations
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Graduate in Any Specialization with 5-10 years' Experience in Drone Flight Operations
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):** 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:** 4500
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:** *Yes*

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)*	*Attached*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Attached*
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Attached*
4.	**Annexure:** Assessment Strategy *(Mandatory)*	*Attached*
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)*	
8.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Attached*
9.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*Attached*
10.	**Supporting Document:** Occupational Map *(Mandatory)*	*Attached*
11.	**Supporting Document:** Assessment SOP *(Mandatory)*	*Attached*
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
	The Drone Operators (Multi-Rotor) are responsible for takeoff, manoeuvring, flying and landing of drones using a legal command & control link, transmitter and receiver pairs. Applications include power line inspections, wild-life monitoring, oil	The job holder is responsible for take off, manoeuvring, flying and landing of drones using a legal command & control link, transmitter and receiver pairs. Applications will include power line inspections, wild-life monitoring, oil and	

Professional Theoretical Knowledge/Process	and gas exploration, land surveying, disaster relief, etc	gas exploration, land surveying, disaster relief, etc Hence, it qualifies as a Level 4 Role. Since it does not involve several choices to be made even in a familiar context, role does not qualify for Level 5. As the job role holder is expected to work in a familiar, predictable, routine situation of clear choice, for ex., visually inspect the drone for structural damage, inspect the battery for bulges and leaks in case of battery powered drones, check for leaks in fuel tank and cracks in the fuel tank housing in case of Internal Combustion (I.C) engine propulsion drones, inspect the igniter, fuel tubes, carburettor and exhaust for structural damage and foreign object blockage , inspect the propellers for cracks, pits and dirt as mentioned in the adjacent cell, the job role cannot be pegged at level 3. Hence NSQF level should be 4.	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	The user/individual on the job needs to know and understand how to: different types of breaches of safety and security and how and when to report these, how to summon medical assistance and the emergency services, where necessary, how to use the health, safety and accident reporting procedures and the importance of these, regulatory guidelines on dealing with safety and security emergencies, relevant first aid procedures, different types of emergency equipment(s), how to use the health, safety and accident reporting procedures and the importance of these.	The job holder is expected to have factual knowledge of the field of drone flight operations. For ex: breaches of safety and security and how and when to report these, planning the mission to fly the drone , how to summon medical assistance and the emergency services, where necessary, how to use the health, safety and accident reporting procedures and the importance of these, regulatory guidelines on dealing with safety of the drone, functionalities of various payloads of drones such as cameras, fire-extinguishers, sprayer tank , sensors, loudspeaker etc, inspect the risk management or mitigation plan and standard operating procedures (SOP) etc, reporting procedures and the importance of these, regulatory guidelines on dealing	4

		with safety and security emergencies. Since all the above mentioned areas are related to factual knowledge in the field of knowledge the role qualifies for Level 4. As the job holder requires factual knowledge of knowledge or study. For ex: the job holder is expected to know different types of breaches of safety and security and how and when to report these, how to summon medical assistance and the emergency services, where necessary, how to use the health, safety and accident reporting procedures and the importance of these, regulatory guidelines on dealing with safety and security emergencies etc. therefore it cannot be pegged at level 3	
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 organise work to achieve targets and deadlines, communicate with passengers and 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 situation.	The job holder is expected to carry out routine and repetitive activities in a narrow range of application, using appropriate rule and tool. For instance, make decisions on a suitable course of action or response if permitted by the authority matrix, monitor efficient functioning of all activities, plan and organise work to achieve targets and deadlines, communicate with 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 All these activities are mostly repetitive and have a narrow range of	4

		application, hence qualifying the role for a Level 4. As the job requires to recall and demonstrate practical skill, routine and repetitive in narrow range application using appropriate rule and tool, using various media to communicate. For ex: make decisions on a suitable course of action or response if permitted by the authority matrix, monitor efficient functioning of all activities, plan and organise work to achieve targets and deadlines, communicate with stakeholders in a courteous manner, maintain cordial work relationship, apply balanced judgments to different situations. Therefore, it cannot be pegged at level 3	
Broad Learning Outcomes/Core Skill	The user/individual on the job needs to know and understand how to: complete accurately well written report in English language detailing the situations of emergency with attention to detail, read instructions/guidelines/procedures/rules, listen to and orally communicate information with all concerned	The job holder is expected to complete accurate, well written report in English language detailing the situations of emergency with attention to detail, read instructions/guidelines/procedures/rules, listen to and orally communicate information with all concerned. Hence, this role qualifies for Level 4. As the job requires language to communicate, written or oral, read instructions/guidelines and communicate with all concerned. Therefore, it cannot be pegged at level 3.	4
Responsibility	The Drone Operator -Multi Rotor is responsible for: 1. Conducting preflight inspections, checks and operations 2. Flying the Mission 3. Conducting post-flight operations, checks and inspections 4. Take action to deal with incidents, accidents, and emergencies in the aviation security environment.	The job holder is responsible for only own work and learning. S/he is a skilled worker who carries out work activities for Conducting preflight inspections, checks and operations, Flying the Mission Conducting post-flight operations, checks and inspections, Follow safety and security procedures, , Take action to deal with incidents, accidents, and emergencies in the aviation security	4

	5. Understanding of Drone Policy and Related Regulatory Compliance 6. Employability Skills	environment. Work effectively at the workplace, Follow and Maintain Green Practices, Maintain a safe and secure working environment. Hence, this role qualifies for Level 4. It does not comprise of any supervisory activities. As this job is about having responsibility for own working and learning. For ex: visually inspect the drone for structural damage, inspect the camera/s for damage, inspect the battery for bulges and leaks in case of battery powered drones, check for leaks in fuel tank and cracks in the fuel tank housing in case of Internal Combustion (I.C) engine propulsion drones, inspect the igniter,fuel tubes, carburettor and exhaust for structural damage and foreign object, blockage etc., Therefore it cannot be pegged at level 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	Nano category drone, Micro category drone, Small category drone		3
4	Multi - Rotor drone (Battery powered) or Multi - Rotor drone (Fuel / gas powered) and its components)		1
5	Multi - Rotor Flight Simulator		3
6	Autonomous Flight Software		6
7	Radio Control Transmitter & Receiver		6

8	BLDC motors, ESCs, Propellers		As Required
9	Flight Controller Board		6
10	ADS - B transponders		6
11	LiPo batteries		10
12	Balance Charger		5
13	Telemetry, Buzzer, Safety Switch, Power Module, frames, arms, landing gears (static and retractable) GPS/GNSS NAVIC modules, On Screen Display (OSD), connecting wires, Binding/Jumper cables, USB cables		As required
14	NPNT Module		1
15	Camera		2
16	Spraying system		2
17	Various payloads such as Thermal sensors, LiDAR sensor, multi- spectral sensors, servos, Gimbal		1
18	Toolbox - Allen keys, Hex Wrenches, Soldering units, Screw Drivers, Wire Cutters, 3M tapes		1
19	Gimbal and its calibration software		1

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)*
1.	Clear skies	Capt.Gaurav nath	CEO	Bangalore	99808 20320	gaurav@clearskies.co.in	

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	1000					
2026	1500					
2027	2000					

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	2024	139	130	122									

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. PMKVY
2.

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: 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 follow

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
AAS/N6301: Conducting pre-flight inspections, checks and operations	*Pre-flight inspections*	**15**	**20**	-	-
	PC1. visually inspect the drone for structural damage	**2**	**3**	-	-
	PC2. inspect the camera/s for damage	**2**	**3**	-	-
	PC3. inspect the battery for bulges and leaks in case of battery powered drones	**2**	**3**	-	-
	PC4. check for leaks in fuel tank and cracks in the fuel tank housing in case of Internal Combustion (I.C) engine propulsion drones	**2**	**3**	-	-
	PC5.inspect the igniter, fuel tubes, carburettor and exhaust for structural damage and foreign object blockage	**2**	**2**	-	-
	PC6. inspect the propellers for cracks, pits and dirt	**2**	**2**	-	-
	PC7. inspect the condition of motor for free of rotational blockages and burnt odor	**2**	**2**	-	-
	PC8. inspect the cleanliness of drone	**1**	**2**	-	-
	Pre-flight checks	**15**	**20**	-	-
	PC9. check battery levels of the drone, remote control transmitter and Ground Control Station (GCS)	**2**	**2**	-	-
	PC10. check the various components of the fuel system like battery / IC engine are secured to the drone as applicable	**2**	**2**	-	-
	PC11. check fuel pressure, temperature and quantity, in case of IC engine propulsion drone	**2**	**2**	-	-
	PC12. check RPM and phase sensor to calculate the ignition timing	**1**	**2**	-	-
	PC13. check if motors are mounted and secured tightly	**1**	**2**	-	-
	PC14.check if the motor direction of rotation is in the correct sequence and applicable to the drone frame type (quad, hexa, octa)	**1**	**2**	-	-
	PC15. check if propellers are correctly installed that is CW (Pusher) propeller to the CW motor and CCW (Puller) propeller to the CCW motor	**1**	**2**	-	-

	PC16.verify if the drone has acquired the navigation location from at least 4 satellites using GPS/Navi communication	**1**	**1**	-	-
	PC17. check if the camera/s are securely attached	**1**	**1**	-	-
	PC18.check for the proper control and command link (C2 link) between drone, remote control transmitter and Ground Control Station (GCS)	**1**	**1**	-	-
	PC19.check if there is any component (including payload) not secured and interrupting the functions of drone	**1**	**1**	-	-
	PC20.check if the electronic components such as flight controller, ESC (Electronic Speed Controller),GPS/Navi , telemetry, receiver, transmitter, safety switch, buzzer are operating properly	**1**	**1**	-	-
	Pre-flight operations	**10**	**20**	-	-
	PC21. make sure the command & control link (C2 link) is established	**2**	**3**	-	-
	PC22. calibrate the drone compass and IMU sensors (accelerometer)	**1**	**3**	-	-
	PC23. calibrate the RPM sensor for ignition timing and log engine RPM into the flight	**1**	**2**	-	-
	PC24. configure the three position switch of the remote control transmitter to operate the engine	**1**	**2**	-	-
	PC25. check for the correct movement and functioning of drone using the remote control transmitter	**1**	**2**	-	-
	PC26. check the landing lock is in removed condition if required	**1**	**2**	-	-
	PC27. perform hand test or bench test for proper operation with the experienced instructor, if necessary	**1**	**2**	-	-
	PC28. perform flight maneuvers (Hover, Level, Yaw, Pitch and Roll)	**1**	**2**	-	-
	PC29.make sure full and free of movement of camera gimbal and the camera is fully functional within range.	**1**	**2**	-	-
	NOS Total	**40**	**60**	-	-
AAS/N6302: Flying the Mission	*Mission Inspections*	**9**	**9**	-	-
	PC1. check for UIN/DAN of drone available on 'Digitalsky' (https://digitalsky.dgca.gov.in/) platform	**1**	**1**	-	-
	PC2. check for ETA (Equipment Type Approval)	**1**	**1**	-	-
	PC3. inspect registration markings or manufacture serial number for proper displaying in the drone	**1**	**1**	-	-
	PC4. check if the drone is 'No Permission - No Take- off (NPNT)' protocol compliant	**1**	**1**	-	-

	PC5. inspect the mission approval detail and purpose	**1**	**1**	-	-
	PC6. inspect if the mission detail is informed to local police station of the mission area	**1**	**1**	-	-
	PC7. inspect the risk management or mitigation plan and standard operating procedures (SOP)	**1**	**1**	-	-
	PC8. inspect registration markings or manufacture serial number for proper displaying in the drone	**1**	**1**	-	-
	PC9. fill the log required to be filled by the drone operator	**1**	**1**	-	-
	Mission Checks	**10**	**12**	-	-
	PC10. obtain weather MET briefing, ATC briefing and local police briefing	**1**	**2**	-	-
	PC11. obtain aerial photography clearance for operating drone, if necessary/applicable for the mission	**1**	**2**	-	-
	PC12. obtain emergency contact number of nearby police station, hospital, fire station and ATC	**1**	**1**	-	-
	PC13. ensure the mission area is not near to the airport or 'No drone' zone	**1**	**1**	-	-
	PC14. obtain the operational restrictions or regulations of mission area	**1**	**1**	-	-
	PC15. inspect control link transmitter, receiver, communication and navigation data link transceiver and antenna/s	**1**	**1**	-	-
	PC16. check on board strength of C2 (command & control) link	**1**	**1**	-	-
	PC17. check if the payload data transmission link is proper	**1**	**1**	-	-
	PC18. check if the Ground Control Station (GCS) flight planning software is updated with latest firmware	**1**	**1**	-	-
	PC19. check if the displaying units (GCS, remote controller/transmitter) are having sufficient battery level	**1**	**1**	-	-
	Mission Plan	**09**	**15**	-	-
	PC20. obtain the mission plan from the organisation/stakeholder	**2**	**3**	-	-
	PC21. check if the mission type is manual or autonomous	**2**	**1**	-	-
	PC22.check if the mission is BVLOS (Beyond Visual Line of Sight) and approval is made as per the regulations for drone operation	**1**	**1**	-	-
	PC23. check if the waypoint navigation, geo-fence of drone is proper	**1**	**1**	-	-
	PC24. check if the fail-safe feature such as RTH/RTL (Return-to-home/launch), detect and avoid is enabled	**1**	**1**	-	-
	PC25. check the main landing area or drone ports and alternate drone ports	**1**	**1**	-	-

	PC26. obtain NPNT permission (permission artefact (PA)) from the Digital Sky for the drone mission	**1**	**1**	-	-
	Mission Operations	**12**	**24**	-	-
	PC27. establish proper C2 (command & control link)	**2**	**3**	-	-
	PC28. check the terrain for operating the drone for no obstacles	**2**	**3**	-	-
	PC29. fly the drone as per the mission plan	**2**	**3**	-	-
	PC30. maintain VLOS (Visual Line of Sight) of the drone i.e., ensure the drone is in FPV (First Person View) during operation	**2**	**3**	-	-
	PC31. check if the BVLOS drone operation is in control and as per the permitted limit of operation	**1**	**3**	-	-
	PC32. check the battery level of drone from the Ground Control Station (GCS)	**1**	**3**	-	-
	PC33. make sure the drone is in pilot control and not breaching the mission plan	**1**	**3**	-	-
	PC34. keep the operational area clear and safe for the mission (in case of anomaly, perform appropriate flight operations and inform concerned authorities)	**1**	**3**	-	-
	NOS Total	**40**	**60**	-	-
AAS/N6303: Conducting post-flight operations, checks and inspections	*Pre Landing Operations*	**10**	**20**	-	-
	PC1. check the landing area or drone port for any object/obstacle/personnel	**2**	**3**	-	-
	PC2. check the weather condition and wind speed for conducive landing	**2**	**3**	-	-
	PC3. bring the drone steady for landing mode	**1**	**2**	-	-
	PC4. ensure if the drone landed safely and disarmed (deactivated)	**1**	**2**	-	-
	PC5. perform mission completion procedure and shutdown checks	**1**	**2**	-	-
	PC6. check if the drone is not powered	**1**	**2**	-	-
	PC7. check if the C2 link between drone, transmitter and Ground Control Station (GCS) is disconnected	**1**	**2**	-	-
	PC8. ensure proper packing of tools, remote control transmitter and RPAS equipment	**1**	**2**	-	-
	Post Landing Inspections	**10**	**20**	-	-
	PC9. inform authorities of having completed the mission	**2**	**3**	-	-
	PC10. record the battery voltage level and the flight time	**2**	**3**	-	-
	PC11. record the fuel quantity, in case of I.C engine powered drone	**2**	**3**	-	-
	PC12. download the flight logs, sign and bundle it	**1**	**2**	-	-
	PC13. upload the flight logs to the digital sky portal permission request	**1**	**2**	-	-

	screen				
	PC14. make an entry in the logbook	**1**	**2**	-	-
	PC15. transfer the data (imagery or video) recorded onboard the drone during flight to the Ground Control Station (GCS)	**1**	**2**	-	-
	Post Flight Checks	**15**	**25**	-	-
	PC16. visually inspect the drone for structural	**2**	**3**	-	-
	PC17. check if the battery is removed from drones and also from the remote-control transmitter in the case of battery-powered drones.	**2**	**3**	-	-
	PC18. verify if the camera/sensors are shut down	**2**	**3**	-	-
	PC19. inspect the battery for bulges, leaks, signs of heating or burnt odor for battery powered drones and leakages/abnormalities in case of I.C engine powered drones	**2**	**3**	-	-
	PC20. check for the damage in RPM (rotations per minute) sensor in case of I.C engine powered drone	**2**	**3**	-	-
	PC21. ensure the camera/gimbal or any other attached payload is removed safely	**2**	**3**	-	-
	PC22. inspect the propellers, motors, camera/s, payload and drone components for foreign debris ingestion, damage, burnt odour and signs of heating	**1**	**2**	-	-
	PC23. store the batteries, propellers, remote control transmitter, landing pads, micro-SD drone card, camera/s or payload and the ancillary equipment safely in their respective area	**1**	**2**	-	-
	PC24. verify if any components of drone are fallen anywhere or missed	**1**	**2**	-	-
	NOS Total	**35**	**65**	-	-
AAS/N0501: Take action to deal with incidents, accidents and emergencies in the aviation security environment	**PC1.** assess the probability and severity of emergency situations	**10**	**10**	-	-
	PC2. take action to deal with emergencies, incidents or accidents in line with its organisations procedures and regulatory guidelines	**9**	**10**	-	-
	PC3. make sure the action planned does not increase the risk or threat to oneself and others	**5**	**6**	-	-
	PC4. consider the needs of others when taking action	**5**	**6**	-	-
	PC5. keep all the relevant and appropriate person(s) informed on action taken in line with organisations procedures	**5**	**4**	-	-
	PC6. get help from the appropriate sources in situations that are outside your own authority or ability	**9**	**10**	-	-
	PC7. document all actions taken to mitigate risks/ emergencies in line with organisation procedures and regulatory guidelines	5	6	-	-

	NOS Total	**48**	**52**	-	-
AAS/N6304: Understanding of Drone Policy and Related Regulatory Compliance	*Comprehension and Adherence to Drone Regulatory Framework*	**40**	**60**	-	-
	PC1. Identify applicable drone policies and regulatory bodies	5	7	-	-
	PC2. Comply with Drone Rules, 2021 and subsequent circulars by DGCA	5	7	-	-
	PC3. Obtain and verify all required documentation such as RPC, UIN, and drone type certification	5	7	-	-
	PC4. Follow airspace classifications and comply with zone-specific permissions using the Digital Sky Platform	5	7	-	-
	PC5. Ensure drone flights adhere to VLOS norms, NPNT compliance, and geo-fencing guidelines	4	7	-	-
	PC6. Identify and report instances of non-compliance or violation of rules	4	7	-	-
	PC7. Update flight logs and maintain operational documentation accurately	4	6	-	-
	PC8. Participate in mandated training or refreshers from DGCA-authorized RPTOs	4	6	-	-
	NOS Total	**40**	**60**	-	-
DGT/VSQ/N0102: Employability Skills	*Introduction to Employability Skills*	1	1	-	-
	PC1. identify employability skills required for jobs in various industries	-	-	-	-
	PC2. identify and explore learning and employability portals	-	-	-	-
	Constitutional values – Citizenship	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	-	-	-	-
	Becoming a Professional in the 21st Century	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	-	-	-	-
	Basic English Skills	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	-	-	-	-
	Career Development & Goal Setting	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	-	-	-	-
	Communication Skills	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	-	-	-	-
	Diversity & Inclusion	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	-	-	-	-
	Financial and Legal Literacy	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	-	-	-	-
	Essential Digital Skills	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 processor, spreadsheets, and presentations	-	-	-	-
	Entrepreneurship	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	-	-	-	-
	Customer Service	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	-	-	-	-
	Getting ready for apprenticeship & Jobs	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		**223**	**327**	**-**	**-**

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
GCS	Ground Control station
IC	Internal Combustion
GPS	Global Positioning System
ESC	Electronic speed control
RPM	Revolutions Per Minute
NPNT	No Permission – No Take-off
SOP	Standard operating procedure
ATC	Air Traffic Control
BVLOS	Beyond Visual Line of Sight
RTH/L	Return to Home / Launch
FPV	First Person View
DGCA	Directorate General of Civil Aviation
RPAS	Remotely Piloted Aircraft System
OSD	On Screen Display
RT	Radio Telephony
AIPs	Astronomical Image Processing System
RPTO	Remote Pilot Training Organization
MoCA	Ministry of Civil Aviation
AAI	Airports Authority of India

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
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