

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Aerospace & Aviation Sector Skill Council (AASSC)
#11, Dynamatic Park, Peenya, Bengaluru- 560058

Name and contact details of individual dealing with the submission

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List of documents submitted in support of the Qualifications File

1. Model Curriculum
2. Industry Validation
3. Occupational Map
4. Line Ministry Concurrence

NSQF QUALIFICATION FILE

Approved in 18th NSQC Meeting – NCVET – 28th April 2022

SUMMARY

1	Qualification Title: Drone Operator- Multi Rotor
2	Qualification Code, if any: AAS/Q6301
3	NCO code and occupation: NCO-2015/3429.10 and Drone Flight Operations
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term) The Drone Operators (Multi-Rotor) are responsible for take-off, 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 and gas exploration, land surveying, disaster relief, etc The individual on the job should have the ability to think logically, demonstrate good situational control, steady hand at operations, attention to detail, ability to prioritize workload and fair communication skills. This additionally requires good communication skills in English. Should have work focus and ability to work under stressful situations. Minimum SPL (Student Pilot License) Medical, Advantage PPL (Private Pilot license) Medical (No hearing & Speech Impairment, No colour blindness, No stuttering, Visual Acuity 6 / 6), No debilitating diseases like epilepsy, uncontrolled diabetes.
5	Body/bodies which will award the qualification AASSC (Aerospace and Aviation Sector Skill Council)
6	Body which will accredit providers to offer courses leading to the qualification: AASSC (Aerospace and Aviation Sector Skill Council)
7	Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy) : Yes, the file is as Annexure 2
8	Occupation(s) to which the qualification gives access: Drone Operator- Multi Rotor
9	Job description of the occupation: The Drone Operators (Multi-Rotor) are responsible for take off, 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 and gas exploration, land surveying, disaster relief, etc The individual on the job should have the ability to think logically, demonstrate good situational control, steady hand at operations, attention to detail, ability to prioritize workload and fair communication skills. This additionally requires good communication skills in English. Should have work focus and ability to work under stressful situations. Minimum SPL (Student Pilot License) Medical, Advantage PPL (Private Pilot license) Medical (No hearing & Speech Impairment, No colour blindness, No stuttering, Visual Acuity 6 / 6), No debilitating diseases like epilepsy, uncontrolled diabetes.
10	Licensing requirements: N/A

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11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided): N/A
12	Level of the qualification in the NSQF: Level 4
13	Anticipated volume of training/learning required to complete the qualification: 390 hours
14	Indicative list of training tools required to deliver this qualification: Unique Equipment Required: <i>The quantity is as per demonstration purpose/hands on practice requirements in the skill lab.</i> <ul style="list-style-type: none">• Nano category drone - 3, Micro category drone - 3, Small category drone - 3 Multi - Rotor drone (Battery powered) or Multi - Rotor drone (Fuel / gas powered) and its components)• Multi - Rotor Flight Simulator - 3• Autonomous Flight Software - 6• Radio Control Transmitter & Receiver - 6• BLDC motors, ESCs, Propellers• Flight Controller Board - 6• ADS - B transponders - 6• LiPo batteries - 10• Balance Charger - 5• 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• NPNT Module - 1• Camera - 2• Spraying system - 2• Various payloads such as Thermal sensors, LiDAR sensor, multi- spectral sensors, servos, Gimbal• Tool box - Allen keys, Hex Wrenches, Soldering units, Screw Drivers, Wire Cutters, 3M tapes,• Gimbal and its calibration software Technical Documentation: <ul style="list-style-type: none">• Multi-Rotor Drone RPAS Operator's Training Manual & Checklists, logbook (Produced by AASSC & ratified, endorsed by DGCA master trainer) is mandatory for each candidate.• Training and Procedure Manual• Standard Operating Procedures for all owned drones

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	<ul style="list-style-type: none"> • Assembly, Maintenance, Operation documentation • Flight logs, Pilot logs, Battery log, Maintenance log. • Safety handling procedures of components 		
15	<p>Entry requirements and/or recommendations and minimum age: 8th Class Pass + ITI (2 years) + 2 years relevant experience OR 10th Class Pass + 2 years relevant experience OR 10th Class Pass + ITI (1 years) + 1-year relevant experience OR 10th Class Pass + ITI (2 years) OR 12th Class Pass OR 10th Class Pass + Diploma (3 years) OR Age - 18 to 65 years</p>		
16	<p>Progression from the qualification (Please show Professional and academic progression): Senior Pilot (level 5)</p>		
17	<p>Arrangements for the Recognition of Prior learning (RPL): AASSC recognizes that there may be candidates who have prior learning experience in the Aviation and Aerospace sector and are desirous of being certified. Such candidates can apply to AASSC for assessment of their skills. Certificates will be provided to candidates after successful assessment.</p>		
18	<p>International comparability where known (research evidence to be provided): N.A.</p>		
19	<p>Date of planned review of the qualification: 28/04/2025</p>		
20	<p>Formal structure of the qualification</p>		
	<p>(i) Mandatory components</p>		
	<p>Title of component and identification code/NOSs/Learning outcomes</p>	<p>Estimated size (learning hours) Including Theory/Practical/VIVA</p>	<p>Level</p>
1	AAS/N6301: Conducting pre-flight inspections, checks and operations	62	4

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	NOS Version No. – 1.0		
2	AAS/N6302: Flying the Mission NOS Version No. – 1.0	140	4
3	AAS/N6303: conducting post-flight operations, checks and inspections NOS Version No. – 1.0	62	4
4	AAS/N0502: Follow safety and security procedures NOS Version No. – 1.0	25	3
5	AAS/N0501: Take action to deal with incidents, accidents and emergencies in the aviation security environment NOS Version No. – 1.0	39	4
6	ELE/N9905: Work effectively at the workplace NOS Version No. – 2.0	45	4
7	THC/N9916: Follow and Maintain Green Practices NOS Version No. 1.0	17	4
	Sub Total (A)	390	
(ii)	Optional components		
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours) Including Theory/Practical/VIVA	Level
1	HSS/N9624: Maintain a safe and secure working environment NOS Version No. 1.0	09	4
	Sub Total (B)	09	
	Total (A+B): 399 Hours		

SECTION 1
ASSESSMENT

21	Body/Bodies which will carry out assessment: From the list of empanelled assessment bodies reviewed over a period.
22	How will RPL assessment be managed and who will carry it out? AASSC recognizes that there may be candidates who have prior learning experience in the Aviation and Aerospace sector and are desirous of being certified. Such candidates can apply to AASSC for testing and certification of their skills, and they will be allotted a training provider/TC for being tested. Documentation for such candidates will be done by the Training provider / TC. Certificates of successful candidates will be dispatched to the TP/TC for distribution to them.
23	Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF. Assessment will be based on the concept of Independent Assessors empanelled with Assessment Agencies, identified, selected, trained and certified on Assessment techniques. The assessors would be aligned to assess as per the laid down criteria. Assessment Agency would conduct assessment only at the training center's of the Training Partner or designated testing centers authorized by AASSC. Ideally, the assessment will be a continuous process comprising of two assessments: <ol style="list-style-type: none">1. A Mid- term assessment2. Final / Term assessment. Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. Therein each Performance Criteria in the NOS will be assigned marks for theory and / or practical based on relative importance and criticality of function. This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets / question bank so created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially with regard to the practical test and the defined tolerances, finish, accuracy etc. The following tools are proposed to be used for final assessment: <ol style="list-style-type: none">i. Written Test: This will comprise of (i) True / False Statements (ii) Multiple Choice Questions (iii) Matching Type Questions. Online system for this will be preferred.ii. Practical Test: This will comprise a test job to be prepared as per project briefing

following

appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.

iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand.

- The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria.
- The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment sets will be then reviewed by AASSC official for consistency.
- The assessments are designed so as to assess maximum parts during the practical hands-on work. The technical limitations at the training centers are taken care in theory and viva.
- The assessment agencies are instructed to hire assessors with integrity, reliability, and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to ideally have assessor with minimum 15 years industry experience as an ITI graduate / minimum 10 years' industry experience as diploma engineer and minimum 5 years' industry experience as graduate engineer.
- The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to AASSC Assessment Framework, competency-based assessments, assessors guide etc.
- The assessors are provided with assessor's guide developed by the Subject Matter Expert of the assessment agency as per the assessment framework. The assessment guides are developed to ensure the maximum possible consistency in the assessment by different assessors and elaborate on the following
 1. Qualification Pack Structure
 2. Guidance for the assessor to conduct theory, practical and viva assessments
 3. Guidance for trainees to be given by assessor before the start of the assessments.
 4. Guidance on assessments process, practical brief with steps of operations

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practical observation checklist and mark sheet

5. Viva guidance for uniformity and consistency across the batch.

•The assessment-by-assessment agency will be completely based on the assessment criteria as mentioned in the Qualification Pack. Each NOS in the Qualification Pack (QP) will be assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Performance Criteria in the NOS will be assigned marks for or practical based on relative importance, criticality of function and training infrastructure.

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – i.e., Learning Outcomes to be assessed, assessment criteria and the means of assessment.

Job Role: Drone Operator- Multi Rotor

Qualification Pack: AAS/Q6301

Sector Skill Council: Aerospace and Aviation Sector Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
5. To pass the Qualification Pack, every trainee should score a minimum of 60% in aggregate
6. The marks are allocated PC wise, however, every NOS will carry a weightage in the total marks allocated to the specific QP

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24. Assessment evidence

Title of Component: AAS/N6301: Conducting pre-flight inspections, checks and operations

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Pre-flight inspections	PC1. visually inspect the drone for structural damage
	PC2. inspect the camera/s for damage
	PC3. inspect the battery for bulges and leaks in case of battery powered drones.
	PC4. check for leaks in fuel tank and cracks in the fuel tank housing in case of Internal Combustion (I.C) engine propulsion drones
	PC5. inspect the igniter, fuel tubes, carburettor and exhaust for structural damage and foreign object blockage
	PC6. inspect the propellers for cracks, pits and dirt
	PC7 . inspect the condition of motor for free of rotational blockages and burnt odour
	PC8. inspect the cleanliness of drone
Pre-flight checks	PC9. check battery levels of the drone, remote control transmitter and Ground Control Station (GCS)
	PC10. check the various components of the fuel system like battery / IC engine are secured to the drone as applicable
	PC11. check fuel pressure, temperature and quantity, in case of IC engine propulsion drone
	PC12. check RPM and phase sensor to calculate the ignition timing
	PC13. check if motors are mounted and secured tightly
	PC14. check if the motor direction of rotation is in the correct sequence and applicable to the drone frame type (quad, hexa, octa)

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	PC15. check if propellers are correctly installed that is CW (Pusher) propeller to the CW motor and CCW (Puller) propeller to the CCW motor
	PC16. verify if the drone has acquired the navigation location from at least 4 satellites using GPS/NavIC communication
	PC17. check if the camera/s are securely attached
	PC18. check for the proper control and command link (C2 link) between drone, remote control transmitter and Ground Control Station (GCS)
	PC19. check if there is any component (including payload) not secured and interrupting the functions of drone
	PC20. check if the electronic components such as flight controller, ESC (Electronic Speed Controller), GPS/NavIC , telemetry, receiver, transmitter, safety switch, buzzer are operating properly
Pre-flight operations	PC21. make sure the command & control link (C2 link) is established
	PC22. calibrate the drone compass and IMU sensors (accelerometer)
	PC23. calibrate the RPM sensor for ignition timing and log engine RPM into the flight
	PC24. configure the three-position switch of the remote control transmitter to operate the engine
	PC25. check for the correct movement and functioning of drone using the remote-control transmitter
	PC26. check the landing lock is in removed condition if required
	PC27. perform hand test or bench test for proper operation with the experienced instructor, if necessary
	PC28. perform flight manoeuvres (Hover, Level, Yaw, Pitch and Roll)

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	PC29. make sure full and free of movement of camera gimbal and the camera is fully functional within range
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/record sheets for practical	
Pass/Fail Practical: 70% Theory: 70%	

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Component: AAS/N6302: Flying the Mission

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Mission inspections	PC1. check for UIN/DAN of drone available on 'Digitalsky' (https://digitalsky.dgca.gov.in/) platform
	PC2. check for ETA (Equipment Type Approval)
	PC3. inspect registration markings or manufacture serial number for proper displaying in the drone
	PC4. check if the drone is 'No Permission - No Take-off (NPNT)' protocol compliant
	PC5. inspect the mission approval detail and purpose
	PC6. inspect if the mission detail is informed to local police station of the mission area
	PC7. inspect the risk management or mitigation plan and standard operating procedures (SOP)
	PC8. inspect registration markings or manufacture serial number for proper displaying in the drone
	PC9. fill the log required to be filled by the drone pilot
Mission checks	PC10. obtain weather MET briefing, ATC briefing and local police briefing
	PC11. obtain aerial photography clearance for operating drone, if necessary/applicable for the mission
	PC12. obtain emergency contact number of nearby police station, hospital, fire station and ATC
	PC13. ensure the mission area is not near to the airport or 'No drone' zone
	PC14. obtain the operational restrictions or regulations of mission area
	PC15. inspect control link transmitter, receiver, communication and navigation data link transceiver and antenna/s

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	PC16. check on board strength of C2 (command & control) link
	PC17. check if the payload data transmission link is proper
	PC18. check if the Ground Control Station (GCS) flight planning software is updated with latest firmware
	PC19. check if the displaying units (GCS, remote controller/transmitter) are having sufficient battery level
Mission plan	PC20. obtain the mission plan from the organisation/stakeholder
	PC21. check if the mission type is manual or autonomous
	PC22. check if the mission is BVLOS (Beyond Visual Line of Sight) and approval is made as per the regulations for drone operation
	PC23. check if the waypoint navigation, geo-fence of drone is proper
	PC24. check if the fail-safe feature such as RTH/RTL (Return-to-home/launch), detect and avoid is enabled
	PC25. check the main landing area or drone ports and alternate drone ports
	PC26. obtain NPNT permission (permission artefact (PA)) from the Digital Sky for the drone mission
<i>Mission Operations</i>	PC27. establish proper C2 (command & control link)
	PC28. check the terrain for operating the drone for no obstacles
	PC29. fly the drone as per the mission plan
	PC30. maintain VLOS (Visual Line of Sight) of the drone i.e., ensure drone is in FPV (First Person View) during operation
	PC31. check if the BVLOS drone operation is in control and as per the permitted limit of operation

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	PC32. check the battery level of drone from the Ground Control Station (GCS)
	PC33. make sure the drone is in pilot control and not breaching the mission plan
	PC34. keep the operational area clear and safe for the mission (in case of anomaly, perform appropriate flight operations and inform concerned authorities)
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail Practical: 70% Theory: 70%	

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Component: AAS/N6303: conducting post-flight operations, checks and inspections

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
<i>Pre-Landing operations</i>	PC1. check the landing area or drone port for any object/obstacle/personnel
	PC2. check the weather condition and wind speed for conducive landing
	PC3. bring the drone steady for landing mode
	PC4. ensure if the drone landed safely and disarmed (deactivated)
	PC5. perform mission completion procedure and shutdown checks
	PC6. check if the drone is not powered
	PC7. check if the C2 link between drone, transmitter and Ground Control Station (GCS) is disconnected
	PC8. ensure proper packing of tools, remote control transmitter and RPAS equipment
<i>Post Landing inspections</i>	PC9. inform authorities of having completed the mission
	PC10. record the battery voltage level and the flight time
	PC11. record the fuel quantity, in case of I.C engine powered drone
	PC12. download the flight logs, sign and bundle it.
	PC13. upload the flight logs to the digital sky portal - permission request screen
	PC14. make an entry in the logbook
	PC15. transfer the data (imagery or video) recorded onboard the drone during flight to the Ground Control Station (GCS)
<i>Post flight Checks</i>	PC16. visually inspect the drone for structural

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	damage
	PC17. check if the battery is removed from drones and also from the remote-control transmitter in case of battery powered drones.
	PC18. verify if the camera/sensors are shut down
	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
	PC20. check for the damage in RPM (rotations per minute) sensor in case of I.C engine powered drone
	PC21. ensure the camera/gimbal or any other attached payload is removed safely
	PC22. inspect the propellers, motors, camera/s, payload and drone components for foreign debris ingestion, damage, burnt odour and signs of heating
	PC23. store the batteries, propellers, remote control transmitter, landing pads, drone micro-SD card, camera/s or payload and the ancillary equipment safely in their respective area
	PC24. verify if any components of drone are fallen anywhere or missed
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail Practical: 70% Theory: 70%	

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Component: AAS/N0502: Follow safety and security procedures

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Comprehending the safety and security procedures for conduct of operations	PC1. comply with the organisations safety and security policies and procedures
	PC2. comply with the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference
	PC3. report any identified breaches of safety, and security policies and procedures to the designated person
	PC4. coordinate with other resources at the workplace (within and outside the organisation) to achieve safe and secure environment
	PC5. identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if it falls within the limits of individuals authority
	PC6. report any hazards outside the individuals authority to the relevant person in line with organisational procedures and regulatory guidelines
	PC7. follow organisations emergency procedures for accidents, fires or acts of unlawful interference
	PC8. identify and recommend opportunities for improving health, safety, and security to the designated person
	PC9. complete all health and safety records are updates and procedures well defined
Means of assessment 1	
Written/ Viva Exam	
Means of assessment 2	
On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail	
Practical: 70%	

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Theory: 70%

Component: AAS/N0501: Take action to deal with incidents, accidents, and emergencies in the aviation security environment

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Take action to deal with incidents, accidents and emergencies	PC1. assess the probability and severity of emergency situations
	PC2. take action to deal with emergencies, incidents or accidents in line with its organisations procedures and regulatory guidelines
	PC3. make sure the action planned does not increase the risk or threat to oneself and others
	PC4. consider the needs of others when taking action
	PC5. keep all the relevant and appropriate person(s) informed on action taken in line with organisations procedures
	PC6. get help from the appropriate sources in situation that are outside your own authority or ability
	PC7. document all actions taken to mitigate risks/emergencies in line with organisation procedures and regulatory guidelines
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail Practical: 70% Theory: 70%	

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Component: ELE/N9905: Work effectively at the workplace

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome	
Communicate effectively at the workplace	PC1. exchange information and instruction with colleagues, and seek clarifications and feedback as necessary	
	PC2. assist colleagues where required	
	PC3. follow business communication etiquette in all interactions and communicative formats (online, digital, and in-person)	
	PC4. document and share all relevant information with stakeholders in agreed formats and as per agreed timelines	
Work effectively	PC5. identify and obtain clarity regarding organisational, team and own goals and targets	
	PC6. prioritise and plan work in order to achieve goals and targets	
	PC7. monitor own and team performance as per agreed plan	
	PC8. complete duties accurately, systematically and within required timeframes	
	PC9. express emotions appropriately at the workplace and manage own response to heightened emotions	
	PC10. maintain orderliness and cleanliness in the work area	
	Maintain and enhance professional competence	PC11. identify own strengths and weaknesses in relation to goals and targets
		PC12. adapt self, service, or product to meet success criteria
		PC13. seek and select opportunities for continuous professional development
		PC14. formulate a professional development plan to enhance capabilities

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	PC15. build or contribute to the organizational knowledge base of cases, clients, issues, solutions, and innovations
	PC16. examine developments and trends in field of work and their potential impact on work
	PC17. take feedback from peers, supervisors and clients to improve own performance and practices
Work in a disciplined and ethical manner	PC18. perform tasks as per workplace standards, organisational policies and legislative requirements
	PC19. display appropriate professional appearance at the workplace and adhere to the organisational dress code
	PC20. demonstrate responsible and disciplined behaviour at the workplace such as punctuality; completing tasks as per given time and standards; demonstrating professional behaviour at all times, adopting environment- friendly practices, etc.
	PC21. identify the cause of conflict and options for resolution with peers or escalate grievances and problems to appropriate authority as per procedure for conflict resolution
	PC22. protect the rights of the client and organisation when delivering services
	PC23. ensure services are delivered equally to all clients regardless of personal and cultural beliefs
	PC24. operate within an agreed ethical code of practice and report unethical conduct to the appropriate authorities
	PC25. follow organisational guidelines and legal requirements on disclosure and confidentiality
Uphold social diversity at the workplace	PC26. recognize and evaluate biased practices against underrepresented groups like women and persons with disabilities, in workplace systems and processes
	PC27. identify and report discrimination and harassment based on gender, disability, or cultural difference at the workplace

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	PC28. use inclusive or neutral language and gestures in all interactions
	PC29. respect the personal and professional space of others
	PC30. access grievance redressal mechanisms as per legislations
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail Practical: 70% Theory: 70%	

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Component: HSS/N9624: Maintain a safe and secure working environment

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Workplace safety and security	PC1. identify potential hazards of safe work practices
	PC2. use various hospital codes for emergency situations
	PC3. comply with safety, and security procedures within the defined scope of competence and authority
	PC4. provide Basic Life Support (BLS) and first aid whenever applicable under defined scope of work
	PC5. follow organizations' procedures related to any emergency efficiently
	PC6. report any identified breaches in health, safety, and security procedures to the designated person
	PC7. complete any health and safety records accurately
Means of assessment 1 Written/ Viva Exam	
Means of assessment 2 On the Job Observation/ work deliverables/ record sheets for practicals	
Pass/Fail Practical: 70% Theory: 70%	

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Component: THC/N9916: Follow and Maintain Green Practices

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Following material conservation practices	PC1. identify ways to optimize usage of material including water in various tasks/activities
	PC2. check for spills/leakages, plug them and escalate to appropriate authority if unable to rectify
	PC3. ensure electrical equipment and appliances are switched off when not in use
Ensuring effective waste management/recycling practices	PC4. identify recyclable and non-recyclable, and hazardous waste generated
	PC5. dispose non-recyclable waste appropriately
	PC6. follow processes specified for disposal of hazardous waste
	PC7. ensure reuse and recycling of waste wherever applicable
Ensuring use of eco-friendly practices	PC8. identify materials which can be replaced by environment friendly substitutes
	PC9. follow SOPs to conserve and re-use water
Means of assessment 1	
Written/ Viva Exam	
Means of assessment 2	
On the Job Observation/ work deliverables/ record sheets for practical	
Pass/Fail	
Practical: 70%	
Theory: 70%	

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SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: Drone Operator- Multi Rotor		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	The Drone Operators (Multi-Rotor) are responsible for take off, 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 and gas exploration, land surveying, disaster relief, etc	<p>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 gas exploration, land surveying, disaster relief, etc</p> <p>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.</p> <p>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</p>	4

NSQF QUALIFICATION FILE

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Title/Name of qualification/component: Drone Operator- Multi Rotor			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
		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.	
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 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.	4

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Title/Name of qualification/component: Drone Operator- Multi Rotor			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
		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	
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,	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,	4

NSQF QUALIFICATION FILE

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Title/Name of qualification/component: Drone Operator- Multi Rotor			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	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.	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 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	
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	The job holder is expected to complete accurate, well written report in English language detailing the situations of emergency with attention to detail, read	4

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NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	emergency with attention to detail, read instructions/guidelines/procedures/rules, listen to and orally communicate information with all concerned	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.	
Responsibility	The Drone Operator -Multi Rotor is responsible for: Conducting pre flight 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 environment. Work effectively at the workplace Follow and Maintain Green Practices Maintain a safe and secure working 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 pre flight 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 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	4

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NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
		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	

SECTION 3 EVIDENCE OF NEED

26	What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?		
	Basis	In case of SSC	In case of other Awarding Bodies (Institutes under Central Ministries and states departments)
	Need of qualification	<ul style="list-style-type: none"> • Feedback from the industry was collected with respect to the past and projected industry growth, projected employee growth and Industry requirement. • During the industry interactions carried out while creating occupational maps and prioritisation of job roles for QP development, the mentioned qualification was indicated as a key requirement by the industry. The expert group / Subcommittee of QP-NOS shared the final approval for the development of the role. The Qualification has been validated by leading associations and companies such as Dynamics Aerospace, Asia Pacific Flight Training (APFT), Drone Destination, Asteria Aerospace, Drone Federation of India, BIS, Bombay flying club etc., • In addition, various skill reports project the demand of the skilled workforce and the projected industry growth of the Aviation industry in India. • Demand assessed through Industry – Stakeholder interaction. • Evidence of the qualification is supported by validations. The complete list of validating companies has been enclosed as an annexure to the Q- File. 	

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	Industry Relevance	The Qualification has been validated by leading companies like such as Dynamics Aerospace, Asia Pacific Flight Training (APFT), Drone Destination, Asteria Aerospace, Drone Federation of India, BIS, Bombay flying club etc.,	
	Usage of Qualification	<ul style="list-style-type: none"> The trainings have not yet begun for these presented qualifications and are presented newly for these job roles. 	
	Estimated Uptake	<ul style="list-style-type: none"> Occupation Map and Industry feedback for the skill gap between the industry demand and institutional supply provide the basis for estimated uptake. This is the basis for planning industry and training providers. Estimated No., of people for this job role is 100,000 until the year 2030 	

27	<p>Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidence</p> <p>Yes, mail communication is attached as Annexure 1</p>
28	<p>What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</p> <ul style="list-style-type: none"> The qualification discussed above is checked for any duplication across sectors. Given the qualification is niche to Drones/UAVs sub-sector, there is no duplication or pre-existing qualifications. The QP has been compiled keeping in mind the industry requirements and review existing QP-NOS
29	<p>What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here</p> <ul style="list-style-type: none"> The skill council has the following stakeholders : The Training Partners, Trainees, The industry and the Assessment bodies and the government agencies.

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- The council will collect data from the stakeholders on the Qualifications on a periodic basis for review. A review/revision of the qualification will take place on a date not later than 5 years of the approval of qualification. This process will also assess the outcome of the training, placement and self-employment data.
- The council has two well defined sub-committees namely QP-NOS subcommittee and Training & industry engagement subcommittee. These committees monitor and review the progress of all qualifications under its purview on a regular basis.

Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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SECTION 4

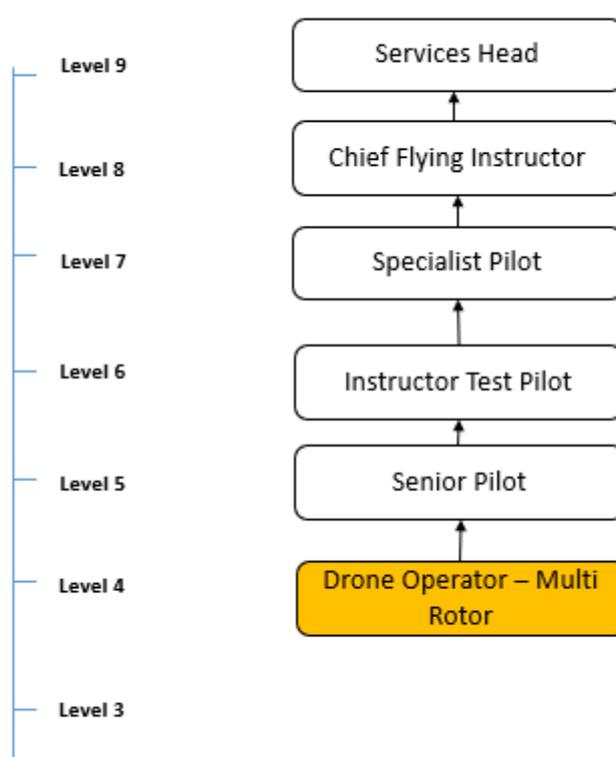
EVIDENCE OF PROGRESSION

30 What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Show the career map here to reflect the clear progression

While designing the National Occupational Standards, occupational mapping was done on a large sample size and validated across the country. The career progression for roles in each occupation was also analysed and decided, based on industry validation across the country. The current challenges faced by the industry, at large was also kept in mind.

Career Path–Drone Operator – Multi Rotor



Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.