European Aviation Safety Agency

Notice of Proposed Amendment 2014-29 (C)(2)

Amendments to Commission Regulation (EU) No 1178/2011 (the Aircrew Regulation)

Flight Examiner Manual

Module 3 — Test standards: Helicopters

RMT.0188 (FCL.002(a)) & RMT.0189 (FCL.002(b)) — 17.12.2014

EXECUTIVE SUMMARY

This Notice of Proposed Amendment (NPA) addresses a safety and regulatory coordination issue related to flight crew licensing.

The main objective of this NPA is to introduce the long syllabus and Learning Objectives (LOs) for professional licences and instrument ratings in the EASA regulatory system.

The NPA also aims to resolve any inconsistencies identified after the adoption of the FCL Implementing Rules. This is necessary to ensure that the EASA regulatory system reflects the state of the art, and specifically the best practices developed in the Member States, in the field of pilot training.

The following Safety Recommendations were taken into consideration for the development of this NPA: SR AUST-2012-006, SR BELG-2010-010, SR UNKG-2006-130, SR SWED-2010-008, SR SWED-2012-006, SR FRAN-2013-033, SR FRAN-2013-035 and SR FRAN-2013-017.

The specific objective of this NPA is to maintain a high level of safety for flight crews, to ensure harmonised implementation of the Aircrew Regulation, and to consider at all levels the importance of General Aviation issues.

— **NPA 2014-29 (A)** contains the Explanatory Note and the changes to the rule text of 'Annex I — Part-FCL', 'Annex II — Conditions for the conversion of existing national licences and ratings for aeroplanes and helicopters', and 'Annex III — Conditions for the acceptance of licences issued by or on behalf of third countries'.
  Due to the number of the proposed changes and the complexity of the text that was amended twice after its initial publication, the decision was taken to base the NPA on the amended text and to publish the changes to Annexes I, II and III in a consolidated version.

— **NPA 2014-29 (B)** contains the changes to the existing AMC and GM text.

— **NPAs 2014-29 (C)(1), (C)(2) and (C)(3)** contain the new AMC with the Flight Examiner Manual (FEM).

— **NPAs 2014-29 (D)(1) and (D)(2)** contain the new AMC with the Learning Objectives (LOs).

The proposed changes are expected to increase safety, reduce regulatory burden on Member States, improve harmonisation, ensure compliance with ICAO, and improve proportionality of the rules for General Aviation by applying the principles of the 'General Aviation Road Map'.

As indicated above, NPA 2014-29 (C)(2) contains the second part of the FEM. For the Explanatory Note, please refer to NPA 2014-29 (A).

Applicability	
Affected regulations and decisions:	Commission Regulation (EU) No 1178/2011, as amended; ED Decision 2011/016/R, as amended.
Affected stakeholders:	Pilots; training organisations; instructors; examiners; national competent authorities.
Driver/origin:	Safety; level playing field; proportionality; RMT FCL.001.
Reference:	EASA NPA 2008-17 'Implementing Rules for Pilot Licensing'.

Process map	
Concept Paper:	No
Terms of Reference:	21.7.2011
Rulemaking group:	Yes
RIA type:	None
Technical consultation during NPA drafting:	Yes
Duration of NPA consultation:	3 months
Review group:	TBD
Focussed consultation:	No
Publication date of the Opinion:	2015/Q4
Publication date of the Decision:	2015/Q4

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3. Module 3 — Test standards: Helicopters

3.1. Common test standards

General

An applicant for a skill test shall have received instruction on the same class or type of helicopter to be used in the test.

3.2. LAPL(H), PPL(H)

3.2.1. Who may test?

3.2.1.1. For skill tests for the issue of an LAPL(H): an FE(H), provided that the examiner has completed at least 500 hours of flight time as a pilot on helicopters, including at least 150 hours of flight instruction.

3.2.1.2. For skill tests for the issue of a PPL(H): an FE(H), provided that the examiner has completed at least 1 000 hours of flight time as a pilot on helicopters, including at least 250 hours of flight instruction.

An FE(H) may test if:

3.2.1.3. the applicant's licence has been issued by the same competent authority as the examiner's; or

3.2.1.4. in the case of an applicant whose competent authority is not the same one that issued the examiner certificate, the examiner shall have reviewed the latest available information containing the relevant national procedures of the applicant's competent authority.

3.2.2. Pass/fail criteria: LAPL(H), PPL(H)

3.2.2.1. The skill test shall be divided into different sections, representing all the different phases of flight appropriate to the category of helicopter flown.

3.2.2.2. Failure in any item of a section will cause the applicant to fail the entire section. If the applicant fails only one section, they shall repeat only that section. Failure in more than one section will cause the applicant to fail the entire test.

3.2.2.3. When the test needs to be repeated in accordance with 3.2.2.2., failure in any section, including those that have been passed at a previous attempt, will cause the applicant to fail the entire test.

3.2.2.4. Failure to achieve a pass in all sections of the test in two attempts will require further practical training.

3.2.3. Conduct of test: LAPL(H), PPL(H)

3.2.3.1. If the applicant chooses to terminate a skill test for reasons considered inadequate by the FE(H), the applicant should retake the entire skill test. If the test is terminated for reasons considered adequate by the FE(H), only those sections not completed should be tested in a further flight.

3.2.3.2. Any manoeuvre or procedure of the test may be repeated once by the applicant. The FE(H) may stop the test at any stage if it is considered that the applicant's demonstration of flying skill requires a complete retest.

3.2.3.3. An applicant should be required to fly the helicopter from a position where the PIC functions can be performed and to carry out the test as if there was no other crew member. Responsibility for the flight should be allocated in accordance with national regulations.

3.2.4. Flight test tolerances: LAPL(H), PPL(H)

3.2.4.1. LAPL(H): The following limits are for general guidance. The FE(H) should make allowance for turbulent conditions, and the handling qualities and performance of the helicopter used:

(1) Height:	(i) normal forward flight: ± 150 feet (ii) with simulated major emergency: ± 200 feet (iii) hovering IGE flight: ± 2 feet
(2) Speed:	(i) take-off approach: + 15 knots/– 10 knots (ii) all other flight regimes: ± 15 knots
(3) Ground drift:	(i) take-off: hover IGE ± 3 feet (ii) landing: no sideways or backwards movement

3.2.4.2. PPL(H): The following limits are for general guidance. The FE(H) should make allowance for turbulent conditions, and the handling qualities and performance of the helicopter used:

(1) Height:	(i) normal forward flight: ± 150 feet (ii) with simulated major emergency: ± 200 feet (iii) hovering IGE flight: ± 2 feet
(2) Heading or tracking of radio aids:	(i) normal flight: ± 10 degrees (ii) with simulated major emergency: ± 15 degrees
(3) Speed:	(i) take-off approach: + 15 knots /– 10 knots (ii) all other flight regimes: ± 15 knots
(4) Ground drift:	(i) take-off: hover IGE ± 3 feet (ii) landing: no sideways or backwards movement

3.2.5. Content of the test: LAPL(H), PPL(H)

3.2.5.1. Foreword

The area and route to be flown for the skill test should be chosen by the FE(H). The route should end at the aerodrome of departure or at another aerodrome. The applicant should be responsible for the flight planning, and should ensure that all equipment and documentation for the execution of the flight are on board. The navigation section of the test should consist of at least two legs, each leg of a minimum duration of 10 minutes. The skill test may be conducted in two flights.

An applicant should indicate to the FE(H) the checks and duties to be carried out, including the identification of radio facilities. Checks should be completed in accordance with the Flight Manual or other appropriate document or the

authorised checklist for the helicopter on which the test is being taken. During pre-flight preparation for the test, the applicant should be required to determine power settings and speeds. Performance data for take-off, approach, and landing should be calculated by the applicant in compliance with the Flight Manual or other appropriate document for the helicopter used.

3.2.5.2. Using a reference system of five test sections, the table below describes the required competency standards for every item of test or check listed in Part-FCL.

The table is separated into four rows as follows:

PHASE OF TEST OR CHECK	
Title of assessed item taken from the Part-FCL schedule	
OBJECTIVE	This cell describes the applicant's proficiency to be assessed by the examiner.
SKILL	This cell describes the competency elements that the applicant is required to demonstrate: — manual helicopter control; — effective flight path management through proper use of the flight management system guidance and automation; — application of procedures.
KNOWLEDGE	This cell describes the knowledge required to meet the objectives.
ATTITUDE	This cell describes the competency elements encapsulated in airmanship, CRM, and threat and error management, such as: — situation awareness; — effective communication; — leadership and teamwork; — effective workload management; — effective problem-solving and decision-making.
GENERAL	
In most phases of the flight there are competencies that apply to a group of manoeuvres. In order to avoid repetition, the common competencies are grouped under the 'General' item heading. Examiners must refer to both the 'General' heading criteria and to the criteria under the specific item being assessed, e.g. 'Turns — General', plus 'Steep turns' as the specific item.	

Note: It is sometimes possible to place a competence in either of the two rows because physical skills, knowledge, etc., cannot always be clearly separated; this is not critical for assessments. The intention is to assist the examiner in identifying what competencies are required for satisfactory performance of a test item, and to assist them in identifying why an applicant may have failed to achieve a pass in an item.

GENERAL SECTION	
Normal operations of all systems (General)	
OBJECTIVE	To determine that the applicant is competent in normal and abnormal procedures of the systems, subsystems, and devices relative to the helicopter type (as may be determined by the examiner).
SKILL	To determine that the applicant is able to: (a) make competent use of the helicopter systems, subsystems, and devices appropriate to the helicopter; (b) completion of the appropriate checklist for normal operations.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: — the procedures for controlling the helicopter with or without automatic flight control systems (as allowed by the the examiner), in accordance with the Flight Manual or other appropriate document, as suitable.
ATTITUDE	Situation awareness: — is aware of the helicopter systems' status. Effective problem-solving and decision-making: — identifies possible defects and threats, and takes corrective action.

GENERAL SECTION	
Helicopter control (General)	
OBJECTIVE	To determine that the applicant demonstrates safe control of the helicopter throughout the flight and performs any manoeuvres required by the examiner.
SKILL	To determine that the applicant demonstrates safe control of the helicopter: (a) through control of RRPM; (b) through appropriate magnitude of control input; (c) through smoothness of control, within the limitations of the airframe and control systems; (d) by following the correct procedures for controlling the helicopter in accordance with the Flight manual or other appropriate document, as suitable.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the correct use of cockpit checklists; (b) management and monitoring of engine(s) and other helicopter systems.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates orientation throughout the manoeuvre. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only).

GENERAL SECTION	
Turns (General)	
OBJECTIVE	To determine that the applicant exhibits safe control of the helicopter by reference to visual attitudes (and instruments, where appropriate).
SKILL	To determine that the applicant is able to: (a) demonstrate transition to the turning attitude using external visual cues and instrument cross-checks through the use of coordinated control application; (b) turns onto specific visual headings and references (and solely by reference to instruments, where appropriate).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: — the procedures for helicopter control with and without automatic flight control systems.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

3.2.5.3. Detailed testing/checking standards — LAPL(H)

The test sections are the following:

SECTION 1: PRE-FLIGHT OR POST-FLIGHT CHECKS AND PROCEDURES

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS

SECTION 3: NAVIGATION AND EN ROUTE PROCEDURES

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES

SECTION 1: PRE-FLIGHT OR POST-FLIGHT CHECKS AND PROCEDURES	
Use of checklist, airmanship, control of helicopter by external visual reference, anti-icing/de-icing procedures, etc., apply to all sections	
(a) Helicopter knowledge, flight planning, NOTAM, and weather briefing	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the relevant requirements and limitations of flight preparation and operation.
SKILL	To determine that the applicant is able to: (a) check that all the documents required for the flight are correct; (b) obtain and assess all elements of the prevailing and forecast weather conditions; (c) collate all relevant ATC information, NOTAMs, Navaids, R/T services; (d) complete an appropriate flight navigation log and chart; (e) determine that the helicopter is correctly fuelled for the flight; (f) complete a mass-and-balance schedule; (g) calculate helicopter performance criteria and limitations applicable to the forecast weather conditions and make adjustments as required for actual conditions before take-off; (h) complete helicopter documentation and explain licensing requirements.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter technical log; (b) fuelling and fuel checks; (c) mass-and-balance limitations and computation of centre of gravity; (d) flight performance; (e) NOTAM information; (f) weather briefing material including METAR, TAF and Area Forecast, synoptic chart, and wind charts; (g) navigation charts.

ATTITUDE	— Situation awareness: — is aware of flight planning considerations affecting all phases of the flight. Effective workload management: — allocates appropriate time to the planning process. Effective communication: — communicates with other agencies including ATC, when and where appropriate. Leadership and teamwork: — interacts with all parties responsible for helicopter availability and dispatch. Effective problem-solving and decision-making: — makes a competent 'GO/NO GO' decision.

(b) Pre-flight inspection or action, location of parts, and purpose	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to pre-flight inspection of the helicopter.
SKILL	To determine that the applicant is able to: (a) check helicopter serviceability record and technical log; (b) perform, by using an approved checklist, all the elements of the helicopter pre-flight inspection, and to identify components and functions as required by the examiner; (c) confirm that the helicopter is in a serviceable and safe condition for flight; (d) check and complete all necessary documentation; (e) complete an appropriate passenger emergency procedure briefing for the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) elements of pre-flight inspection, including: (1) which items need to be inspected; (2) the reason(s) for checking each item and how to detect possible defects; (b) inspecting the helicopter in accordance with an appropriate checklist; (c) verifying that the helicopter is in a safe condition for flight.
ATTITUDE	Situation awareness: — is aware of airframe components and equipment. Effective workload management: — allocates appropriate time for the walk-round procedure. Effective problem-solving and decision-making: — determines a suitable resolution when faced with discrepancies.

(c) Cockpit inspection, starting procedure	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to cockpit inspection and management, and to procedures for starting engine(s) and rotor engagement, as detailed in the POH or RFM.
SKILL	To determine that the applicant is able to: (a) ensure that all loose items in the cockpit are secured; (b) complete all recommended cockpit inspection, engine/rotor starting and post-starting procedures by using an approved checklist; (c) organise material and equipment in an efficient manner so that they are accessible in flight.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the understanding of the use of safety belts, shoulder harnesses, and doors; (b) checklists for engine-start and rotor-engagement procedures; (c) normal limitations for engine start and rotor engagement; (d) the action required in the event of a malfunction; (e) ground-safety procedures.
ATTITUDE	Situation awareness: — is aware of the immediate environment around the helicopter during the starting procedure; — identifies potential problems when observing the start sequence and conditions, and knows how to react. Effective communication: — ensures a passenger briefing is made at an appropriate time. Effective workload management: — completes all required tasks at the appropriate time. Effective problem-solving and decision-making: — identifies possible defects and threats; — takes corrective action.

(d) Communication and navigation equipment checks, selecting and setting frequencies	
OBJECTIVE	To determine that the applicant is able to select and identify all navigation and communication equipment for use in flight.
SKILL	To determine that the applicant demonstrates: (a) completion of all recommended communication and navigation equipment test procedures; (b) selection and setting of appropriate frequencies and transponder codes; (c) correct setting of all displays and instruments such as HIS, RMI, OBS, CDI and FD, as appropriate.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) communications and navigation equipment test procedures; (b) Morse code; (c) auto-ident functionality, where appropriate.
ATTITUDE	Situation awareness: — is aware of the communications and navigation frequencies required at each stage of flight. Effective workload management: — conducts tests at the appropriate stage of pre-flight preparation. Effective communication: — briefs crew members on test process and results. Effective problem-solving and decision-making: — reacts to unexpected system malfunction; — replans as necessary.

(e) Pre-take-off procedure and ATC liaison	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of the pre-take-off procedures and the required actions.
SKILL	To determine that the applicant is able to: (a) complete all recommended pre-take-off checks using an approved checklist; (b) obtain ATC clearance and follow ATC instructions; (c) complete all necessary post-take-off checks; (d) use charts or other published information as required; (e) use correct lookout techniques; (f) observe the Rules of the air and ATC regulations; (g) comply with ATC instructions; (h) use standard R/T procedures and phraseology; (i) comply with ATC instructions; (j) complete passenger and crew brief, as necessary; (k) operate on the ground and in the air with particular regard to passenger safety and comfort.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures and checklists; (b) RTF phraseology; (c) engine and other system checks, as required.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(f) Parking, shutdown, and post-flight procedure	
OBJECTIVE	To determine that the applicant is able to park the helicopter, shut down, and complete the required post-flight documentation.
SKILL	To determine that the applicant is able to: (a) return the helicopter to the parking area and complete engine shutdown; (b) complete post-landing checks and drills; (c) secure the helicopter and complete the documentation.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) shutdown procedures; (b) tie-down/picketing procedures; (c) the required documentation, including the technical log.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter. Effective communication: — interacts effectively with all relevant agencies.

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS	
(a) Take-off and landing (lift-off and touchdown)	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst performing vertical take-off and landing manoeuvres.
SKILL	To determine that the applicant is able to: (a) lift in order to establish a stable hover maintaining ground position and heading; (b) descend in order to land maintaining ground position and heading; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations; (b) power limitations for take-off; (c) hover checks; (d) post-landing checks.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates orientation throughout the manoeuvre; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's height/power setting/RRPM.

(b) Taxi and hover taxi	
OBJECTIVE	To determine that the applicant is able to perform a hover* taxi manoeuvre and is aware of the possible hazards associated with wind strength and direction relative to heading. [*Ground taxi, as required, for helicopters with a wheeled undercarriage]
SKILL	To determine that the applicant is able to: (a) control heading, height, and ground speed in hover taxi; (b) complete all necessary checks and drills throughout; (c) avoid Loss of Tail rotor Effectiveness (LTE).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) recommended taxi speeds and limitations; (b) causes of LTE; (c) height/velocity limitations; (d) yaw-rate limitations; (e) engine/power limitations.

ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognition of the onset of, and recovery from, LTE.

(c) Stationary hover with headwind, crosswind, and tailwind	
OBJECTIVE	To determine that the applicant is able to establish and maintain a hover in various wind conditions.
SKILL	To determine that the applicant is able to: (a) maintain heading, height, and ground position whilst in the stationary hover into headwind, crosswind, and downwind; (b) complete all necessary checks and drills throughout; (c) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) effects of wind velocity on helicopter attitude.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.

(d) Stationary hover turns, 360 degrees left and right (spot turns)	
OBJECTIVE	To determine that the applicant is able to establish and maintain a hover in various wind conditions.
SKILL	To determine that the applicant is able to: (a) maintain heading, height, and ground position whilst in the stationary hover into headwind, crosswind, and downwind; (b) complete all necessary checks and drills throughout; (c) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) effects of wind velocity on helicopter attitude.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.

(e) Forward, sideways, and backwards hover manoeuvring	
OBJECTIVE	To determine that the applicant is able to manoeuvre the helicopter in the hover whilst maintaining a fixed heading/height.
SKILL	To determine that the applicant is able to: (a) establish and maintain the nominated height, heading, and speed; (b) complete a backwards manoeuvre preceded by a lookout turn and an increase in the hover height; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind/ground speed limitations for hover manoeuvres; (b) height/velocity limitations.
ATTITUDE	Situation awareness: (a) assesses environmental conditions; (b) is aware of the immediate ground environment around the helicopter; (c) notes surface conditions and the possible effects on the helicopter; (d) is aware of the helicopter's speed/height/power setting/RRPM.

(f) Simulated engine failure from the hover	
OBJECTIVE	To determine that the applicant is able to safely recover to the ground from the hover following a simulated engine failure.

SKILL	To determine that the applicant is able to: (a) stop the tendency to drift and roll; (b) stop the yaw tendency; (c) cushion the touchdown; (d) complete all the necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) indications of engine failure/power loss; (b) RRPM limitations; (c) emergency operating procedures relating to engine failure.
ATTITUDE	Situation awareness: — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — prioritises flying tasks, normal operating procedures and emergency operating procedures appropriately. Effective communication: — makes appropriate R/T call to ATC (simulated to the examiner).

(g) Quick stops into and downwind	
OBJECTIVE	To determine that the applicant is able to safely transition the helicopter from straight and level flight at low level to the hover, in both headwind and downwind conditions, within a limited space.
SKILL	To determine that the applicant demonstrates the following: (a) into wind: lowers the collective whilst simultaneously flaring the helicopter, maintaining height and heading until helicopter comes to complete stop before descending into a low hover; (b) downwind: either flares the helicopter and turns, or turns and flares the helicopter to bring it back into wind whilst maintaining height and not letting the speed fall below 30 knots until heading is within 30 degrees of the wind. Once the helicopter has come to a complete stop, descends into a low hover; (c) maintains lookout throughout; (d) maintains directional control and balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) height/velocity limitations; (b) RRPM and engine limitations; (c) wind limitations.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — determines the appropriate technique for obstacle environment and available space.

(h) Sloping ground or unprepared sites landings and take-offs	
OBJECTIVE	To determine that the applicant is able to conduct landing and take-off manoeuvres on a sloping surface.
SKILL	To determine that the applicant is able to: (a) identify a landing area on slope and conduct reconnaissance considering at least the following points; — size: large enough to land the helicopter without striking the tail/blades; — shape: valley, bowl, direction of slope; — surrounds: blade/tail clearance, FOD, trees/shrubs, people; — slope: within the limits of the helicopter/pilot; — surface: firm, slippery, muddy, rocky; (b) maintain heading and ground position, and prevents movement of helicopter on slope; (c) centralise controls after landing; (d) pre-position controls prior to take-off; (e) complete all necessary checks and drills throughout; (f) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) sloping ground limitations; (b) causes of dynamic rollover and preventative techniques.
ATTITUDE	Situation awareness: — awareness of proximity of main and tail rotors relative to sloping ground; — awareness of angle of bank throughout the manoeuvre. Effective problem-solving and decision-making: — termination of manoeuvre if unsafe conditions are recognised.

(i) Take-offs (various profiles)

OBJECTIVE	To determine that the applicant is able to transition from a hover to a stable climb in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate take-off/transition from the hover as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout; (e) obtain ATC clearance, when required.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended take-off profiles; (b) recommended climb speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making — identifies possible threats and takes mitigatory action.

(j) Crosswind and downwind take-off (if practicable)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb in both crosswind and downwind conditions.
SKILL	To determine that the applicant is able to: (a) take-off in crosswind/downwind from the hover as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and downwind manoeuvres; (b) RRPM and engine/power limitations; (c) effects of crosswind and tailwind on helicopter attitude.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — considers available power margin when determining direction of turn.

(k) Take-off at maximum take-off mass (actual or simulated)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb with the helicopter take-off mass at or close to the maximum allowable for the prevailing conditions.
SKILL	To determine that the applicant is able to: (a) demonstrate, using an appropriate technique, a take-off and transition from the hover ensuring that the helicopter is flown within the limits set by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter mass limitations; (b) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions, particularly wind velocity in relation to helicopter. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(l) Approaches (various profiles)

OBJECTIVE	To determine that the applicant is able to transition from cruise flight to a stable hover in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate an approach profile nominated by the examiner; (b) obtain ATC clearance, as required; (c) maintain a stable decelerative descent path from cruise to hover; (d) maintain directional control and balance throughout; (e) arrive over the nominated aiming/landing position; (f) complete all necessary checks and drills throughout; (g) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended approach profiles; (b) recommended approach speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(m) Limited power take-off and landing	
OBJECTIVE	To determine that the applicant is able to transition from a stationary position on the ground to a stabilised climb and from a stabilised approach to landing (when a hover is not achievable).

SKILL	To determine that the applicant is able to: (a) demonstrate a hover power check, from which the examiner will set a simulated power limit to be used for the take-off; (b) demonstrate a transition into forward flight using an appropriate technique for the simulated power limit set by the examiner; (c) demonstrate an in-flight power check, from which the examiner will set a simulated power limit to be used for the approach and landing; (d) demonstrate an appropriate technique for the approach and landing using the simulated power limit set by the examiner; (e) maintain RRPM within the set limits throughout; (f) maintain directional control and balance throughout; (g) complete all necessary checks and drills throughout; (h) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM and engine/power limitations; (b) the effects of limited power on hover performance; (c) approved techniques for running take-offs and landings; (d) height/velocity limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(n) Autorotations (FE to select two items from the following: basic, range, low speed, and 360-degree turns)	
OBJECTIVE	To determine that the applicant is able to establish and maintain stable autorotative flight, and manoeuvre the helicopter effectively in order to achieve the desired performance.

SKILL	To determine that the applicant is able to: (a) select an area and height/altitude for the nominated autorotation; (b) conduct HASEL (or other appropriate) checks; (c) establish straight and level flight at the nominated speed, height, and heading with cruise power set (preferably into wind); (d) initiate the autorotation manoeuvre (with verbal warning); (e) achieve the appropriate parameters for the nominated technique; (f) maintain engine control during autorotation through movement of the throttle to idle position (only if appropriate and briefed by the examiner); (g) make a correctly constructed MAYDAY call (simulated to the examiner); (h) control RRPM throughout; (i) maintain directional control and balance throughout; (j) complete all necessary checks and drills throughout; (k) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits in autorotation; (b) effects of speed/RRPM combinations on aircraft performance (ROD and distance-covered); (c) emergency operating procedures for simulated failure.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — makes timely emergency call to ATC (simulated to the examiner) containing all relevant information; — ensures that passenger briefing is made. Effective problem-solving and decision-making: — revises technique as required to make the intended landing site.

(o) Autorotative landing	
OBJECTIVE	To determine that the applicant is able to conduct a safe forced landing following autorotation.

SKILL	To determine that the applicant is able to: (a) identify a suitable landing area, and if appropriate conduct reconnaissance (size, shape, surrounds, slope and surface); (b) establish the final approach (into wind), with minimum drift by 300 feet AGL; (c) apply the appropriate flare at suitable height for helicopter/environmental conditions; (d) cushion the touchdown, with a running landing if appropriate, whilst maintaining heading; (e) carefully lower the collective; (f) complete all the necessary checks and drills throughout; (g) maintain lookout throughout; (h) maintain directional control and balance throughout; (i) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limitations for autorotation; (b) flare height appropriate to prevailing conditions; (c) attitude appropriate to flare in prevailing conditions; (d) height appropriate to setting landing attitude; (e) safe landing attitude limits.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all the required tasks at an appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(p) Practice forced landing with power recovery	
OBJECTIVE	To determine that the applicant is able to transition from autorotative flight to a stabilised climb.
SKILL	To determine that the applicant is able to: (a) demonstrate engine control for recovery from autorotation through movement of the throttle to open position when instructed by the examiner to 'Go around' (or at an agreed height/altitude), and establish a stabilised climb using the nominated climbing speed; (b) control RRPM throughout; (c) maintain directional control and balance throughout; (d) complete all the necessary checks and drills throughout; (e) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) throttle control techniques; (b) normal operating procedures.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(q) Confined areas: power checks, reconnaissance technique, approach and departure technique	
OBJECTIVE	To determine that the applicant is able to make an appropriate assessment of the suitability of confined areas for arrival and departure manoeuvres.
SKILL	To determine that the applicant is able to: (a) identify the nominated landing area and conduct a reconnaissance covering at least the following points (normally not conducted lower than 500 feet AGL): — size: is the confined area large enough for pilot's ability and helicopter size and which type of approach will it require? — shape: in relation to the wind direction/final approach; — surrounds: • outer: habitation, hazards that may affect the circuit, approach, overshoot; • inner: hazards in the immediate area of the landing site; — slope and surface: suitability of the landing site (may require confirmation prior to landing and it may be appropriate to consider aspects such as sun, shadow, wires, etc.); (b) conduct power check (normally into wind, within 500 feet AGL of the landing area), noting power available; (c) conduct circuit and approach, identifying escape routes and landing committal point in order to carry out a landing, dummy approach or go around, as appropriate; (d) establish hover at the appropriate height in the confined area (land/spot turn only if requested by the examiner); (e) conduct hover power check; (f) select a suitable take-off profile, in an appropriate direction, in order to depart from the confined area; (g) maintain directional control and balance throughout; (h) control RRPM throughout; (i) complete all the necessary checks and drills throughout; (j) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter performance limitations; (b) helicopter dimensions; (c) effects of wind velocity in and around confined areas.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the height of the helicopter above ground; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately; — completes all required tasks at an appropriate time. Effective communication: — ensures that correct passenger and crew briefings are made. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — makes a competent 'GO/NO GO' decision.

SECTION 3: NAVIGATION AND EN ROUTE PROCEDURES	
(a) Navigation and orientation at various altitudes or heights and map-reading	
OBJECTIVE	To determine that the applicant is able to navigate using visual references (ground-to-map and map-to-ground references).
SKILL	To determine that the applicant is able to: (a) complete all elements of VFR planning for the route prescribed with particular reference to planned altitudes and safe levels of operation; (b) identify the helicopter's position by visual reference to ground features and map(s)/chart(s); (c) navigate by means of precomputed headings, ground speed, and elapsed time; (d) correct track error through suitable heading adjustment.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track; (b) the interpretation of aeronautical maps and charts.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Altitude or height, speed, heading control, observation of airspace, and altimeter-setting	
OBJECTIVE	To determine that the applicant is able to fly accurately whilst carrying out other activities relating to navigation.
SKILL	To determine that the applicant is able to: (a) control helicopter altitude, speed, and heading using visual attitude flying techniques; (b) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (c) use the trim system, where appropriate; (d) observe airspace relating to the helicopter's flight path; (e) complete all necessary checks and drills; (f) set altimeter(s) to the appropriate subscale setting for the particular phase of flight.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying techniques with or without the use of autopilot as determined by the examiner; (b) the interpretation of aeronautical maps and charts; (c) altimeter-setting procedures; (d) airspace regulations.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Monitoring of flight progress, flight log, fuel usage, endurance, estimated time of arrival (ETA), assessment of track error, re-establishment of correct track, and instrument monitoring	
OBJECTIVE	To determine that the applicant is able to maintain good cockpit management, monitor flight progress, and keep a suitable record of the flight.
SKILL	To determine that the applicant is able to: (a) navigate by means of calculated headings, ground speed, and time; (b) make appropriate heading corrections to maintain track; (c) arrive at destinations or turning points within 3 minutes of estimated time of arrival (ETA); (d) if appropriate, configure the engine for cruise/endurance performance in accordance with the Flight Manual or other appropriate document guidance; (e) monitor fuel consumption for range or endurance, making adjustments as appropriate; (f) conduct regular checks for carburettor icing, if appropriate.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) the use of all elements of the flight log; (c) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track.

ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

(d) Observation of weather conditions and diversion planning	
OBJECTIVE	To determine that the applicant is able to assess weather conditions and decide whether flight can continue under VFR, or plan and execute an alternative flight plan.
SKILL	To determine that the applicant is able to: (a) interpret weather information including: (1) METARs; (2) TAFs; (3) surface analysis charts; (4) weather radar charts; (5) wind and temperature charts; (6) SIGMETs; (7) ATIS reports; (8) NOTAMs; (b) confirm availability of alternate aerodromes; (c) calculate heading, ground speed, ETA, and fuel required during any unscheduled diversion; (d) calculate minimum safe altitude for track to new destination; (e) navigate by means of calculated headings, ground speed, and time; (f) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (g) observe weather conditions.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) decoding of available weather information; (b) the interpretation of aeronautical maps and charts; (c) airspace regulations.
ATTITUDE	Situation awareness: — is aware of current and forecast weather conditions; — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action; — replans flight plan as necessary.

(e) Collision avoidance (lookout procedures)	
OBJECTIVE	To determine that the applicant is able to maintain adequate lookout in order to avoid collision with other aircraft.
SKILL	To determine that the applicant is able to: (a) comply with the Rules of the air (right of way, etc.); (b) maintain regular lookout using proper visual-scanning techniques; (c) use TCAS or other collision-avoidance equipment, where fitted; (d) take appropriate avoiding action, if necessary.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) Rules of the air relating to right of way; (b) TCAS operating procedures; (c) TCAS RTF phraseology.

ATTITUDE	Situation awareness: — demonstrates effective workload management; — divides attention inside and outside the cockpit. Effective communication: — uses correct R/T phraseology for collision avoidance. Effective problem-solving and decision-making: — avoids situations that present increased collision risk.

(f) ATC liaison with due observance of regulations	
OBJECTIVE	To determine that the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.
SKILL	To determine that the applicant is able to demonstrate the following: Departure and en route: (a) set altimeter to appropriate setting as specified in the checklist, Flying Order Book, etc.; (b) maintain two-way R/T communication using correct phraseology throughout; (c) obtain ATC clearances and the appropriate level of service; (d) comply with ATC clearances and instructions when required; Aerodrome arrival procedures: (e) carry out the appropriate checks and drills; (f) set altimeters and cross-check in accordance with the checklist, Flying Order Book, or as required; (g) comply with published arrival procedure or clearance; (h) maintain adequate lookout for collision avoidance; (i) consider weather and wind conditions, landing surface, and obstructions; (j) plan and follow the circuit pattern, and maintain orientation with the landing area; (k) establish from the circuit pattern the recommended helicopter approach configuration adjusting speed and rate of descent to maintain a stabilised approach; (l) select and achieve the appropriate touchdown area.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) pilot–controller responsibilities including tower, en route control, and clearances; (c) adequate knowledge of two-way communications failure procedures.

ATTITUDE	Situation awareness: — establishes communication with ATC on the correct frequencies and at the appropriate times. Effective communication: — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Leadership and team work: — demonstrates correct crew coordination (where applicable). Effective workload management — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making: — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES	
(a) Level flight, control of heading, altitude or height and speed	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in level flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control of the helicopter altitude, speed, and heading using instrument-scanning techniques; (b) use the trim system, where appropriate; (c) maintain directional control and balance throughout; (d) complete all the necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using the autopilot functions as allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Climbing and descending turns to specified headings	
OBJECTIVE	To determine that the applicant is able to complete a coordinated climb/descent and turn using the recommended climb or descent speed, as well as the nominated rates of climb and descent.
SKILL	To determine that the applicant is able to: (a) establish climb/descent and turns onto nominated height and headings; (b) demonstrate coordinated control of the helicopter altitude, angle of bank, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for rate of turn; (b) recommended climb/descent speeds and associated power settings.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Level turns with up to a 30-degree bank, 180 to 360 degrees left and right	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst manoeuvring as required for the exercise by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) establish steep turns (with a 30-degree angle of bank) onto nominated headings whilst maintaining altitude/height and speed; (b) control the helicopter altitude, speed, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using the autopilot functions, where allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES	
Note: The FE(H) selects four items from the following:	
(a) Engine malfunctions including governor failure, carburettor or engine icing, and oil system, as appropriate	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the engine and associated systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmits the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.
(b) Fuel system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the fuel systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fuel system indications (normal and warning indications); (b) fuel system controls; (c) minimum fuel requirements; (d) fuel-flow rates; (e) abnormal and emergency operating procedures relating to fuel systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(c) Electrical system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the electrical systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) electrical system indications (normal and warning indications); (b) electrical system controls; (c) electrical system limitations; (d) abnormal and emergency operating procedures relating to electrical systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(d) Hydraulic system malfunction including approach and landing without hydraulics, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the hydraulic systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) smoothly control inputs compensating for loss of hydraulic assistance; (c) analyse emergency or abnormal situation and formulate appropriate plan; (d) execute abnormal or emergency drills; (e) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (f) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (g) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hydraulic system indications (normal and warning indications); (b) hydraulic system controls; (c) hydraulic system limitations; (d) abnormal and emergency operating procedures relating to hydraulic systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(e) Main rotor or antitorque system malfunction (FFS or discussion only)	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the main rotor or antitorque systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) for main-rotor failure, commence emergency descent to land immediately; (e) for antitorque system failure (fixed pitch), establish a balanced flight configuration, if possible, and anticipate a running landing; (f) for antitorque system failure (loss of drive), enter autorotation immediately and recover with a power-off landing; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) rotor system indications (normal and warning indications); (b) rotor system controls; (c) RRPM limitations; (d) abnormal and emergency operating procedures relating to rotor systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(f) Fire drills including smoke control and removal, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to indications of a fire in the engine or in the cabin and/or baggage areas.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fire indications (engine, APU, gearbox, cabin, and baggage bay warning indications); (b) fire extinguisher system controls; (c) OEI engine limitations; (d) abnormal and emergency operating procedures relating to fire.
ATTITUDE	Situation awareness: — identifies the source of the fire as soon as possible; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(g) Other abnormal and emergency procedures as outlined in the Flight Manual or other appropriate document	
OBJECTIVE	To demonstrate that the applicant is able to maintain control of the helicopter whilst carrying out the appropriate drills in relation to these systems as per the Flight manual or other appropriate document.
SKILL	To determine that the applicant is able to: (in normal operations) (a) use the systems appropriate to checklists or operational requirements. (in abnormal operations) (b) analyse abnormal situations and formulate appropriate plan; (c) execute abnormal drills in accordance with the Flight Manual or other appropriate document (touch drills only); (d) plan, execute, and demonstrate further actions to ensure safe recovery of helicopter, passengers, and crew to an airfield/LS as appropriate; (e) use the checklist to confirm actions when time permits; (f) make suitable emergency R/T calls (given to the examiner but not transmitted).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) systems; (b) normal operating procedures; (c) abnormal and emergency operating procedures.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

3.2.5.4. Detailed testing/checking standards — PPL(H)

The test sections are the following:

SECTION 1: PRE-FLIGHT OR POST-FLIGHT CHECKS AND PROCEDURES

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS

SECTION 3: NAVIGATION AND EN ROUTE PROCEDURES

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES

SECTION 1: PRE-FLIGHT OR POST-FLIGHT CHECKS AND PROCEDURES	
Use of checklist, airmanship, control of helicopter by external visual reference, anti-icing/de-icing procedures, etc., apply to all sections	
(a) Helicopter knowledge, i.e. example technical log, fuel, mass and balance, performance flight planning, NOTAM, and weather briefing	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the relevant requirements and limitations of flight preparation and operation.
SKILL	To determine that the applicant is able to: (a) check all the documents required for a private passenger-carrying flight; (b) obtain and assess all the elements of the prevailing and forecast weather conditions; (c) collate all relevant ATC information, NOTAMs, Navaids, R/T services; (d) complete an appropriate flight navigation log and chart; (e) determine that the helicopter is correctly fuelled for the flight; (f) complete a mass-and-balance schedule; (g) calculate helicopter performance criteria and limitations applicable to forecast weather conditions, and make adjustments as required for actual conditions before take-off.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the use of the helicopter technical log; (b) fuelling and fuel checks; (c) mass-and-balance limitations and computation of centre of gravity; (d) flight performance; (e) NOTAM information; (f) the interpretation of weather briefing material including METAR, TAF and Area Forecast, synoptic chart, and wind charts; (g) the interpretation of navigation charts.

ATTITUDE	Situation awareness: — is aware of flight planning considerations affecting all phases of the flight. Effective workload management: — allocates appropriate time to the planning process. Effective communication: — communicates with other agencies including ATC, when and where appropriate. Leadership and teamwork: — interacts with all parties responsible for helicopter availability and dispatch. Effective problem-solving and decision-making: — makes a competent 'GO/NO GO' decision.

(b) Pre-flight inspection or action, location of parts, and purpose	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to pre-flight inspection of the helicopter.
SKILL	To determine that the applicant is able to: (a) perform a thorough check of the helicopter's serviceability record and technical log; (b) use an approved checklist to perform all elements of the helicopter pre-flight inspections, identifying components and functions as required by the examiner; (c) confirm that the helicopter is in a serviceable and safe condition for flight; (d) check and complete all the necessary documentation; (e) complete an appropriate passenger emergency procedure briefing for the examiner; (f) verify that the helicopter is in safe condition for flight.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the elements of pre-flight inspection, including: (1) which items need to be inspected; (2) the reason(s) for checking each item and how to detect possible defects; (b) helicopter visual inspection requirements.
ATTITUDE	Situation awareness: — is aware of the airframe components and equipment. Effective workload management: — allocates appropriate time for the walkround procedure. Effective problem-solving and decision-making: — determines a suitable resolution when faced with discrepancies.

(c) Cockpit inspection, starting procedure	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to cockpit inspection and management, and to procedures for starting engine(s) and rotor engagement.
SKILL	To determine that the applicant is able to: (a) secure all loose items in the cockpit; (b) complete all recommended cockpit inspection, engine/rotor starting and post-starting procedures using an approved checklist.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the use of safety belts, shoulder harnesses, and doors; (b) checklists for engine-start and rotor-engagement procedures; (c) normal limitations for engine start and rotor engagement; (d) the action required in the event of a malfunction; (e) ground-safety procedures.
ATTITUDE	Situation awareness: — is aware of the immediate environment around the helicopter during the starting procedure; — identifies potential problems when observing the start sequence, conditions, and how to react. Effective communication: — makes a correct passenger briefing. Effective workload management: — completes all required tasks at the appropriate time; — organises material and equipment in an efficient manner so they are accessible in flight. Effective problem-solving and decision-making: — identifies possible defects and threats, and takes corrective action.

(d) Communication and navigation equipment checks, selecting and setting frequencies	
OBJECTIVE	To determine that the applicant is able to select and identify all navigation and communication equipment for use in flight.
SKILL	To determine that the applicant is able to: (a) complete all recommended communication and navigation equipment test procedures; (b) select and set the appropriate frequencies and transponder codes; (c) correctly set all displays and instruments such as HSI, RMI, OBS, CDI and FD, as appropriate.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) communications and navigation equipment test procedures; (b) Morse code; (c) auto-ident functionality, where appropriate.
ATTITUDE	Situation awareness: — is aware of the communications and navigation frequencies required at each stage of the flight. Effective workload management: — conducts tests at the appropriate stage of pre-flight preparation. Effective communication: — briefs flight crew members on test process and results. Effective problem-solving and decision-making: — reacts to unexpected system malfunction; — replans as necessary.

(e) Pre-take-off procedure, R/T procedure, and ATC compliance	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of the pre-take-off procedures and the required actions.
SKILL	To determine that the applicant is able to: (a) complete all recommended pre-take-off checks using an approved checklist; (b) obtain ATC clearance and follow ATC instructions; (c) complete all necessary post-take-off checks; (d) use charts or other published information as required; (e) use correct lookout techniques; (f) observe the Rules of the air and ATC regulations; (g) comply with ATC instructions; (h) use standard R/T procedures and phraseology; (i) complete passenger and crew brief, as necessary; (j) operate on the ground and in the air with particular regard to passenger safety and comfort.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures and checklist; (b) RTF phraseology; (c) engine and other system checks, as required.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(f) Parking, shutdown, and post-flight procedures	
OBJECTIVE	To determine that the applicant is able to park the helicopter, shut down, and complete the required post-flight documentation.
SKILL	To determine that the applicant is able to: (a) complete post-landing checks and drills; (b) return the helicopter to the parking area and complete engine-shutdown procedure; (c) secure the helicopter and complete post-flight documentation.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) shutdown procedures; (b) tie-down/picketing procedures; (c) the required documentation, including the technical log.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter. Effective communication: — interacts effectively with all relevant agencies.

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS	
(a) Take-off and landing (lift-off and touchdown)	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst performing vertical take-off and landing manoeuvres.

SKILL	To determine that the applicant is able to: (a) lift in order to establish a stable hover maintaining ground position and heading; (b) descend in order to land maintaining ground position and heading; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations; (b) power limitations for take-off; (c) hover checks; (d) post-landing checks.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates orientation throughout the manoeuvre; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's height/power setting/RRPM.

(b) Taxi and hover taxi	
OBJECTIVE	To determine that the applicant is able to perform a hover* taxi manoeuvre and is aware of the possible hazards associated with wind strength and direction relative to heading. [*Ground taxi, as required, for helicopters with a wheeled undercarriage]
SKILL	To determine that the applicant is able to: (a) control heading, height, and ground speed in hover taxi; (b) complete all necessary checks and drills throughout; (c) avoid Loss of Tail rotor Effectiveness (LTE).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) recommended taxi speeds and limitations; (b) causes of LTE; (c) height/velocity limitations; (d) yaw-rate limitations; (e) engine/power limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises onset of, and recovery from, LTE.

(c) Stationary hover with headwind, crosswind, and tailwind	
OBJECTIVE	To determine that the applicant is able to establish and maintain a hover in various wind conditions.
SKILL	To determine that the applicant is able to: (a) maintain heading, height, and ground position whilst in the stationary hover into wind, crosswind, and downwind; (b) complete all necessary checks and drills throughout; (c) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) the effects of wind velocity on helicopter attitude.
ATTITUDE	Situation awareness: — assesses enviromental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM;

(d) Stationary hover turns, 360 degrees left and right (spot turns)	
OBJECTIVE	To determine that the applicant is able to establish and maintain a hover in various wind conditions.
SKILL	To determine that the applicant is able to: (a) maintain heading, height, and ground position whilst in the stationary hover into wind, crosswind, and downwind; (b) complete all necessary checks and drills throughout; (c) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) the effects of wind velocity on helicopter attitude.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.
(e) Forward, sideways, and backwards hover manoeuvring	
OBJECTIVE	To determine that the applicant is able to manoeuvre the helicopter in the hover whilst maintaining a fixed heading/height.
SKILL	To determine that the applicant is able to: (a) establish and maintain the nominated height, heading, and speed; (b) perform a backwards manoeuvre preceded by a lookout turn and an increase in the hover height; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind/ground speed limitations for hover manoeuvres; (b) height/velocity limitations.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.

(f) Simulated engine failure from the hover	
Note: Normally initiated by the examiner simulating an engine failure by closing the throttle with or without verbal warning.	
OBJECTIVE	To determine that the applicant is able to safely recover to the ground from the hover following a simulated engine failure.
SKILL	To determine that the applicant is able to: (a) stop the tendency to drift and roll; (b) stop the yaw tendency; (c) cushion the touchdown; (d) complete all necessary checks and drills throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) indications of engine failure/power loss; (b) RRPM limitations; (c) emergency operating procedures relating to engine failure.
ATTITUDE	Situation awareness: — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — makes appropriate RT call to ATC (simulated to the examiner).

(g) Quick stops into and downwind	
OBJECTIVE	To determine that the applicant is able to safely transition the helicopter from straight and level flight at low level to the hover, in both wind and downwind conditions, within a limited space.
SKILL	To determine that the applicant is able to: (a) into wind: lower the collective whilst simultaneously flaring the helicopter, maintaining height and heading until the helicopter comes to a complete stop before descending into a low hover; (b) into downwind: either flare the helicopter and turn, or turn and flare the helicopter to bring it back into wind whilst maintaining height and not letting the speed fall below 30 knots until heading is within 30 degrees of the wind. Once the helicopter has come to a complete stop, descend into a low hover; (c) maintain lookout throughout; (d) maintain directional control and balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) height/velocity limitations; (b) RRPM and engine limitations; (c) wind limitations.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — determines the appropriate technique for obstacle environment and available space.

(h) Sloping ground or unprepared sites landings and take-offs

OBJECTIVE	To determine that the applicant is able to conduct landing and take-off manoeuvres on a sloping surface.
SKILL	To determine that the applicant is able to: (a) identify a landing area on slope, and conduct reconnaissance considering at least the following points: (1) size: large enough to land the helicopter without striking the tail/blades; (2) shape: valley, bowl, direction of slope; (3) surrounds: blade/tail clearance, FOD, trees/shrubs, people; (4) slope: within the limits of the helicopter/pilot; (5) surface: firm, slippery, muddy, rocky; (b) maintain heading and ground position, and to prevent movement of helicopter on slope; (c) centralise controls after landing; (d) pre-position controls prior to take-off; (e) complete all necessary checks and drills throughout; (f) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) sloping ground limitations; (b) causes of dynamic rollover and preventative techniques.
ATTITUDE	Situation awareness: — awareness of proximity of main and tail rotors to sloping ground; — awareness of angle of bank throughout the manoeuvre. Effective problem-solving and decision-making: — termination of manoeuvre if unsafe conditions are recognised.

(i) Take-offs (various profiles)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stable climb in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) take off/transition from the hover as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintaing lookout throughout; (e) obtain ATC clearance, when required.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended take-off profiles; (b) recommended climb speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(j) Crosswind and downwind take-off (if practicable)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb in both crosswind and downwind conditions.
SKILL	To determine that the applicant is able to: (a) take off from the hover in crosswind/downwind as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and downwind manoeuvres; (b) RRPM and engine/power limitations; (c) the effects of crosswind and tailwind on helicopter attitude.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — considers available power margin when determining direction of turn.

(k) Take-off at maximum take-off mass (actual or simulated)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb with the helicopter take-off mass at or close to the maximum allowable for the prevailing conditions.
SKILL	To determine that the applicant is able to: (a) use an appropriate technique in order to take off and transition from the hover ensuring that the helicopter is flown within the limits set by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter mass limitations; (b) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions, particularly wind velocity in relation to the helicopter. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(l) Approaches (various profiles)	
OBJECTIVE	To determine that the applicant is able to transition from cruise flight to a stable hover in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate an approach profile nominated by the examiner; (b) obtain ATC clearance, as required; (c) maintain a stable, decelerative descent path from cruise to hover; (d) maintain directional control and balance throughout; (e) arrive over the nominated aiming/landing position; (f) complete all necessary checks and drills throughout; (g) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended approach profiles; (b) recommended approach speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(m) Limited power take-off and landing	
OBJECTIVE	To determine that the applicant is able to transition from a stationary position on the ground to a stabilised climb, and from a stabilised approach to landing (when a hover is not achievable).

SKILL	To determine that the applicant is able to: (a) demonstrate a hover power check, for which the examiner sets a simulated power limit to be used for the take-off; (b) demonstrate a transition into forward flight using an appropriate technique for the simulated power limit set by the examiner; (c) demonstrate an in-flight power check, for which the examiner sets a simulated power limit to be used for the approach and landing; (d) demonstrate an appropriate technique for the approach and landing using the simulated power limit set by the examiner; (e) maintain control of RRPM throughout; (f) maintain directional control and balance throughout; (g) complete all necessary checks and drills throughout; (h) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM and engine/power limitations; (b) the effects of limited power on hover performance; (c) approved techniques for running take-offs and landings; (d) height/velocity limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(n) Autorotations (FE to select two items from the following: basic, range, low speed, and 360-degree turns)	
OBJECTIVE	To determine that the applicant is able to establish and maintain stable autorotative flight, and manoeuvre the helicopter effectively in order to achieve the desired performance.

SKILL	To determine that the applicant is able to: (a) select an area and height/altitude for the nominated autorotation; (b) conduct HASEL (or other appropriate) checks; (c) establish straight and level flight at the nominated speed, height, and heading with cruise power set (preferably into wind); (d) initiate autorotation manoeuvre (with verbal warning); (e) achieve the appropriate parameters for the nominated technique; (f) control the engine during autorotation through movement of the throttle to idle position (only if appropriate and if briefed by the examiner); (g) make MAYDAY call (simulated to the examiner); (h) control RRPM throughout; (i) maintain directional control and balance throughout; (j) complete all necessary checks and drills throughout; (k) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits in autorotation; (b) the effects of speed/RRPM combinations on aircraft performance (ROD and distance-covered); (c) emergency operating procedures for simulated failure.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — makes timely emergency call to ATC (simulated to the examiner) containing all relevant information; — ensures passenger briefing is made. Effective problem-solving and decision-making: — revises technique as required to reach the intended landing site.

(o) Autorotative landing	
Note: The examiner shall nominate the landing area, entry speed, height, and heading. The candidate shall select the entry point unless otherwise instructed.	
OBJECTIVE	To determine that the applicant is able to conduct a safe forced landing following autorotation.

SKILL	To determine that the applicant is able to: (a) identify a suitable landing area, and if appropriate conduct reconnaissance (size, shape, surrounds, slope and surface); (b) establish final approach (into wind) with minimum drift by 300 feet AGL; (c) apply appropriate flare at suitable height for helicopter/environmental conditions; (d) cushion the touchdown, with a running landing if appropriate, whilst maintaining heading; (e) carefully lower the collective; (f) complete all the necessary checks and drills throughout; (g) maintain lookout throughout; (h) maintain directional control and balance throughout; (i) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limitations for autorotation; (b) flare height appropriate for prevailing conditions; (c) attitude appropriate for flare in prevailing conditions; (d) height appropriate for setting landing attitude; (e) safe landing attitude limits.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(p) Practise forced landing with power recovery	
The examiner shall brief on how the PFL shall be initiated during the main briefing. HASEL checks and carb heating selection (if applicable) are the responsibilities of the examiner for this exercise.	
OBJECTIVE	To determine that the applicant is able to transition from autorotative flight to a stabilised climb.

SKILL	To determine that the applicant is able to: (a) control the engine for recovery from autorotation through movement of the throttle to open position when instructed by the examiner to 'go around' (or at an agreed height/altitude), and establish a stabilised climb using the nominated climbing speed; (b) control RRPM throughout; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) throttle control techniques; (b) normal operating procedures.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(q) Confined area: power checks, reconnaissance technique, approach and departure technique	
Note: The examiner shall nominate the confined area to be used	
OBJECTIVE	To determine that the applicant is able to make an appropriate assessment of the suitability of confined areas for arrival and departure manoeuvres.

SKILL	To determine that the applicant is able to: (a) identify the nominated landing area and conduct reconnaissance covering at least the following points (normally not conducted lower than 500 feet AGL): — size: is the confined area large enough for the pilot's ability and helicopter's size, and which type of approach will it require? — shape: in relation to the wind direction/final approach; — surrounds: • outer: habitation, hazards that may affect the circuit, approach, overshoot, • inner: hazards in the immediate area of the landing site; — slope and surface: suitability of the landing site (may require confirmation prior to landing, and it may be appropriate to include other aspects such as sun, shadow, wires, etc.); (b) conduct power check (normally into wind, within 500 feet AGL of the landing area), noting power available; (c) conduct circuit and approach, identifying escape routes and landing committal point in order to carry out a landing, dummy approach or go around, as appropriate; (d) establish hover at the appropriate height in the confined area (land/spot turn only if requested by the examiner); (e) conduct hover power check; (f) demonstrate a suitable take-off profile, in an appropriate direction, in order to depart from the confined area; (g) maintain directional control and balance throughout; (h) control RRPM throughout; (i) complete all necessary checks and drills throughout; (j) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter performance limitations; (b) helicopter dimensions; (c) the effects of wind velocity in and around confined areas.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the height of the helicopter above ground; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately; — completes all required tasks at an appropriate time. Effective communication: — ensures that correct passenger and crew briefings are made. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — makes a competent 'GO/NO GO' decision.

SECTION 3: NAVIGATION AND EN ROUTE PROCEDURES	
(a) Navigation and orientation at various altitudes or heights and map-reading	
OBJECTIVE	To determine that the applicant is able to navigate using visual references (ground-to-map and map-to-ground references).
SKILL	To determine that the applicant is able to: (a) complete all elements of VFR planning for the route prescribed with particular reference to planned altitudes and safe levels of operation; (b) identify the helicopter's position by visual reference to ground features and map(s)/chart(s); (c) navigate by means of precomputed headings, ground speed, and elapsed time; (d) correct track error through suitable heading adjustment.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track; (b) the interpretation of aeronautical maps and charts.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Altitude or height, speed, heading control, observation of airspace and altimeter-setting	
OBJECTIVE	To determine that the applicant is able to fly accurately whilst carrying out other activities relating to navigation.

SKILL	To determine that the applicant is able to: (a) control the helicopter's altitude, speed, and heading by using visual attitude flying techniques; (b) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (c) use the trim system, where appropriate; (d) observe airspace relating to the helicopter's flight path; (e) complete all necessary checks and drills; (f) set altimeter to the appropriate subscale setting for the phase of flight.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying techniques with or without the use of autopilot as determined by the examiner; (b) the interpretation of aeronautical maps and charts; (c) altimeter-setting procedures; (d) airspace regulations.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Monitoring of flight progress, flight log, fuel usage, endurance, ETA, assessment of track error, re-establishment of correct track, and instrument monitoring	
OBJECTIVE	To determine that the applicant is able to maintain good cockpit management, monitor flight progress, and keep a suitable record of the flight.

SKILL	To determine that the applicant is able to: (a) navigate by means of calculated headings, ground speed, and time; (b) make appropriate heading corrections to maintain track; (c) arrive at destinations or turning points within 3 minutes of estimated time of arrival (ETA); (d) if appropriate, configure the engine for cruise/endurance performance in accordance with the Flight Manual or other appropriate document guidance; (e) monitor fuel consumption for range or endurance, making adjustments as appropriate; (f) regularly check for carburettor icing, if appropriate.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) the use of all elements of the flight log; (c) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

(d) Observation of weather conditions and diversion planning	
OBJECTIVE	To determine that the applicant is able to assess weather conditions and decide whether flight can continue under VFR, or to plan and execute an alternative flight plan.

SKILL	To determine that the applicant is able to: (a) interpret weather information including: (1) METARs, (2) TAFs, (3) surface analysis charts, (4) weather radar charts, (5) wind and temperature charts, (6) SIGMETs, (7) ATIS reports, (8) NOTAMs; (b) confirm availability of alternate aerodromes; (c) calculate heading, ground speed, ETA, and fuel required during any unscheduled diversion; (d) calculate minimum safe altitude for track to new destination; (e) navigate by means of calculated headings, ground speed, and time; (f) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (g) observe weather conditions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) decoding of available weather information; (b) the interpretation of aeronautical maps and charts; (c) airspace regulations.
ATTITUDE	Situation awareness: — is aware of current and forecast weather conditions; — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action; — replans flight plan as necessary.

(e) Use of navigation aids (where available)	
OBJECTIVE	To determine that the applicant is able to: (a) select, identify, and interpret position/navigation information from appropriate ground-based radio and navigation aids or from GPS information as required or nominated by the examiner; (b) intercept and maintain given tracks or radials, or navigate to designated waypoints (VFR) using the navigation aids nominated by the examiner; (c) maintain heading, height, and speed within the prescribed limits.
SKILL	To determine that the applicant is able to: (a) select and identify the appropriate radio and navigation aids as required or nominated by the examiner; (b) conduct navigation instrument functional checks (if not already completed); (c) verify and record the helicopter's position by reference to radio navigation equipment when required by the examiner; (d) intercept and maintain given tracks or radials using the navigation aids nominated.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) Morse code; (b) auto-ident functionality, where available; (c) the use of instrumentation to reference desired radial/track; (d) configuration of navigation displays including HSI, RMI, OBS, FD, and autopilot; (e) transponder-setting procedures.
ATTITUDE	Situation awareness: — is aware of the helicopter's position in relation to external references (landmarks and navigation aids); — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions; — is aware of conflicting traffic movements. Effective workload management: — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight path as necessary.

(f) ATC liaison with due observance of regulations	
OBJECTIVE	To determine that the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.

SKILL	To determine that the applicant is able to: (a) set altimeters as appropriate; (b) maintain two-way R/T communication; (c) obtain ATC clearances and the appropriate level of service; (d) comply with ATC clearances and instructions; (e) comply with published departure/arrival procedure or clearance; (f) maintain adequate lookout and collision-avoidance awareness.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) communications failure procedures; (c) transponder-setting procedures.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — establishes communication with ATC on the correct frequencies and at the appropriate times; — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Effective workload management: — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making. — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES	
Note: Throughout this Section the examiner shall be responsible for navigation and ATC liaison and the applicant shall be responsible for lookout, except when conducting IF, then the examiner shall be responsible for lookout.	
(a) Level flight, control of heading, altitude or height, and speed	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in level flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control of the helicopter's altitude, speed, and heading using instrument-scanning techniques; (b) use the trim system, where appropriate; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions as allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Climbing and descending turns to specified headings	
OBJECTIVE	To determine that the applicant is able to complete a coordinated climb/descent and turn using the recommended climb speed or descent speed and nominated rates of climb and descent.
SKILL	To determine that the applicant is able to: (a) establish climb/descent and turns onto nominated height and headings; (b) demonstrate coordinated control of the helicopter's altitude, angle of bank, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for rate of turn; (b) recommended climb/descent speeds and associated power settings.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Level turns with up to a 30-degree bank, 180 to 360 degrees left and right	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst manoeuvring as required for the exercise using external visual and internal references.
SKILL	To determine that the applicant is able to: (a) establish steep turns (up to a 30-degree angle of bank) onto nominated headings whilst maintaining altitude/height and speed; (b) control the helicopter's altitude, speed, and heading using visual attitude flying techniques; (c) use the trim system, where appropriate; (d) maintain directional control and balance throughout; (e) complete all necessary checks and drills throughout; (f) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions, where allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(d) Level turns 180 degrees left and right by sole reference to instruments	
Note:	**The examiner shall simulate inadvertent entry into cloud by means of screens, visors or goggles, and the applicant shall be required to execute a Rate-1 level turn on instruments through 180 degrees to return the helicopter to VMC on a suitable heading. Applicants are expected to show consideration of the safety factors necessary for flight in IMC.**
OBJECTIVE	To determine that the applicant is able to control the helicopter's altitude, speed, and heading whilst performing Rate-1 turns onto headings as nominated by the examiner.
SKILL	To determine that the applicant is able to: (a) establish Rate-1 turns and roll out onto nominated headings; (b) demonstrate coordinated control of the helicopter's altitude, speed, and rate of turn using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for Rate-1 turns.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES	
Note 1: In cases where the test is conducted on an ME helicopter, a simulated engine failure drill, including an SE approach and landing, should be included in the test.	
Note 2: The FE shall select four items from this Section. These may be performed in Sections 1 to 4, or as a separate section.	
(a) Engine malfunctions including governor failure, carburettor or engine icing and oil system, as appropriate	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the engine and associated systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(b) Fuel system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the fuel systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fuel system indications (normal and warning indications); (b) fuel system controls; (c) minimum fuel requirements; (d) fuel-flow rates; (e) abnormal and emergency operating procedures relating to fuel systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(c) Electrical system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the electrical systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) electrical system indications (normal and warning indications); (b) electrical system controls; (c) electrical system limitations; (d) abnormal and emergency operating procedures relating to electrical systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(d) Hydraulic system malfunction including approach and landing without hydraulics, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the hydraulic systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) smoothly control inputs compensating for loss of hydraulic assistance; (c) analyse emergency or abnormal situation and formulate appropriate plan; (d) execute abnormal or emergency drills; (e) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (f) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (g) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hydraulic system indications (normal and warning indications); (b) hydraulic system controls; (c) hydraulic system limitations; (d) abnormal and emergency operating procedures relating to hydraulic systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action: — replans flight as necessary.

(e) Main rotor or antitorque system malfunction (FFS or discussion only)	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the main rotor or antitorque systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) for main rotor failure, commence emergency descent to land immediately; (e) for antitorque system failure (fixed pitch), establish balanced flight configuration, if possible, and anticipate a running landing; (f) for antitorque system failure (loss of drive), enter autorotation immediately and recover with a power-off landing; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit the appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) rotor system indications (normal and warning indications); (b) rotor system controls; (c) RRPM limitations; (d) abnormal and emergency operating procedures relating to rotor systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(f) Fire drills including smoke control and removal, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to indications of a fire in the engine or in the cabin and/or baggage areas.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit the appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fire indications (engine, APU, gearbox, cabin and baggage bay warning indications); (b) fire extinguisher system controls; (c) OEI engine limitations; (d) abnormal and emergency operating procedures relating to fire.
ATTITUDE	Situation awareness: — identifies the source of the fire as soon as possible; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(g) Other abnormal and emergency procedures as outlined in the Flight Manual or other appropriate document, and with reference to Appendix 9, C to Part-FCL, Sections 3 and 4, including ME helicopters:

(a) Simulated engine failure at take-off:

(1) rejected take-off at or before TDP or safe forced landing at or before DPATO;

(2) shortly after TDP or DPATO.

(b) Landing with simulated engine failure:

(1) landing or go-around following engine failure before LDP or DPBL;

(2) following engine failure after LDP or safe forced landing after DPBL.

OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during a critical phase of the flight to ensure that a safe recovery can be made.

SKILL	To determine that the applicant is able to: (a) control RRPM; (b) optimise the helicopter's performance by selecting best speed and RRPM for the phase of flight; (c) maintain operating engine(s) within the limits; (d) adhere to an approved/recommended OEI profile; (e) analyse emergency or abnormal situation and execute appropriate plan; (f) execute abnormal or emergency drills; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit the appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.
ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

3.2.5.1. Multi-engine helicopters

See above.

3.2.6. Skill test/check form

Forms to be taken from Part-FCL.

3.3. CPL(H)

3.3.1. Who may test?

3.3.1.1. For a skill test for the issue of a CPL(H): an FE(H) provided that the examiner has completed 2 000 hours flight time as a pilot on helicopters, including at least 250 hours of flight instruction.

3.3.1.2. In the case of combining a licence test or check with an OPC, the examiner shall have received appropriate standardisation by the operator for the conduct of the OPC in accordance with the operational requirements.

An FE(H) may test if:

3.3.1.3. the applicant's licence has been issued by the same competent authority as the examiner's; or

3.3.1.4. in the case of an applicant whose competent authority is not the same one that issued the examiner certificate, the examiner shall have reviewed the latest available information containing the relevant national procedures of the applicant's competent authority.

3.3.2. Conduct of test/check

3.3.2.1. The helicopter used for the skill test shall meet the requirements for training helicopters.

3.3.2.2. The area and the route to be flown shall be chosen by the FE(H) and all low-level and hover work shall be performed at an approved aerodrome/site. Routes for Section 3 may end at the aerodrome of departure, or at another aerodrome, and one aerodrome shall be a controlled aerodrome.

3.3.2.3. The skill test may be conducted in two flights. The total duration of both flights shall be at least 90 minutes.

3.3.2.4. Should the applicant choose to terminate a skill test for reasons considered inadequate by the FE(H), the applicant shall retake the entire skill test. If the test is terminated for reasons considered adequate by the FE(H), only those sections not completed shall be tested in a further flight.

3.3.2.5. At the discretion of the FE(H), any manoeuvre or procedure of the test may be repeated once by the applicant. The FE(H) may stop the test at any stage if it is considered that the applicant's demonstration of flying skills requires a complete retest.

3.3.2.6. The applicant should complete all items at attempt number one prior to retesting any item (attempt number two). When conducting the test/check in a helicopter, it may be inappropriate or impossible to complete the first attempt due to ATC or external influences. This flexibility would not be appropriate or required during simulator testing.

3.3.2.7. An applicant shall be required to fly the helicopter from a position where the PIC functions can be performed and to carry out the test as if no other crew member was present. Responsibility for the flight shall be allocated in accordance with national regulations.

3.3.2.8. An applicant shall indicate to the FE(H) the checks and duties carried out, including the identification of radio facilities. Checks shall be completed in accordance with the checklist for the helicopter on which the test is being taken. During pre-flight preparation for the test, the applicant is required to determine power settings and speeds. Performance data for take-off, approach, and landing shall be calculated by the applicant in compliance with the Flight Manual or other appropriate document for the helicopter used.

3.3.2.9. The FE(H) shall take no part in the operation of the helicopter except where intervention is necessary in the interest of safety or to avoid unacceptable delay to other traffic.

3.3.3. Flight test tolerances

3.3.3.1. The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the helicopter used.

(1) Height:	(i) normal forward flight: ± 100 feet
	(ii) with simulated major emergency: ± 150 feet
(2) Tracking on radio aids:	
	(i) normal flight and with simulated emergency: ± 10 degrees
(3) Heading:	(i) normal flight: ± 10 degrees
	(ii) with simulated major emergency: ± 15 degrees
(3) Speed:	(i) take-off and approach multi-engine: ± 5 knots
	(ii) all other flight regimes: ± 10 knots
(4) Ground drift:	(i) take-off: hover IGE ± 3 feet
	(ii) landing: no sideways or backwards movement

3.3.4. Content of the test

3.3.4.1. Expanded guidance

The helicopter used for the skill test shall meet the requirements for training helicopters.

The area and route to be flown shall be chosen by the FE(H) and all low-level and hover work shall be performed at an approved aerodrome/site. Routes used for Section 3 may end at the aerodrome of departure, or at another aerodrome, and one destination shall be a controlled aerodrome. The skill test may be conducted in two flights. The total duration of the flights shall be at least 90 minutes.

3.3.4.2. Using a reference system of five test sections, the table below describes the required competency standards for every item of test or check listed in Part-FCL.

The table is separated into four rows as follows:

PHASE OF TEST OR CHECK	
Title of assessed item taken from the Part-FCL schedule	
OBJECTIVE	This cell describes the applicant's proficiency to be assessed by the examiner.
SKILL	This cell describes the competency elements that the applicant is required to demonstrate: — manual helicopter control; — effective flight path management through proper use of the flight management system guidance and automation; — application of procedures.
KNOWLEDGE	This cell describes the knowledge required to meet the objectives.
ATTITUDE	This cell describes the competency elements encapsulated in airmanship, CRM, and threat and error management such as: — situation awareness; — effective communication; — leadership and teamwork; — effective workload management; — effective problem-solving and decision-making.
GENERAL	
In most phases of the flight there are competencies that apply to a group of manoeuvres. In order to avoid repetition, the common competencies are grouped under the 'General' item heading. Examiners must refer to both the 'General' heading criteria and to the criteria under the specific item being assessed, e.g. 'Turns — General', plus 'Steep turns' as the specific item.	

Note: It is sometimes possible to place a competence in either of the two rows because physical skills, knowledge, etc., cannot always be clearly separated; this is not critical for assessments. The intention is to assist the examiner in identifying what competencies are required for satisfactory performance of a test item, and to assist them in identifying why an applicant may have failed to achieve a pass in an item.

3.3.4.3. Detailed testing/checking standards — CPL(H)

The test sections are the following:

SECTION 1: PRE-FLIGHT/POST-FLIGHT CHECKS AND PROCEDURES

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS

SECTION 3: NAVIGATION — EN ROUTE PROCEDURES

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES BY SOLE REFERENCE TO INSTRUMENTS

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES

SECTION 1: PRE-FLIGHT/POST-FLIGHT CHECKS AND PROCEDURES	
Use of checklist, airmanship, control of helicopter by external visual reference, anti-icing/de-icing procedures, etc., apply to all sections	
(a) Helicopter knowledge, e.g. technical log, fuel, mass and balance, performance, flight planning, NOTAM, and weather briefing	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the relevant requirements and limitations of flight preparation and operation.
SKILL	To determine that the applicant is able to complete the flight-planning process and to: (a) check that all documents required for the flight are correct; (b) obtain and assess all elements of the prevailing and forecast weather conditions; (c) collate all relevant ATC information, NOTAMs, Navaids, R/T services; (d) complete an appropriate flight navigation log and chart; (e) determine that the helicopter is correctly fuelled for the flight; (f) complete a mass-and-balance schedule; (g) calculate helicopter performance criteria and limitations applicable to forecast weather conditions, and make adjustments as required for actual conditions before take-off; (h) demonstrate knowledge of the helicopter documentation and the licensing requirements.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter technical log; (b) fuelling and fuel checks; (c) mass-and-balance limitations and computation of centre of gravity; (d) flight performance; (e) NOTAM information; (f) weather briefing material including METAR, TAF and Area Forecast, synoptic chart and wind charts; (g) navigation charts.

ATTITUDE	Situation awareness: — is aware of flight-planning considerations affecting all phases of the flight. Effective workload management: — allocates appropriate time to the planning process. Effective communication: — communicates with other agencies including ATC, when and where appropriate. Leadership and teamwork: — interacts with all parties responsible for helicopter availability and dispatch. Effective problem-solving and decision-making: — makes a competent 'GO/NO GO' decision.

(b) Pre-flight inspection or action, location of parts, and purpose	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to pre-flight inspection of the helicopter.
SKILL	To determine that the applicant is able to: (a) check the helicopter's serviceability record and technical log; (b) use an approved checklist to perform all elements of the helicopter pre-flight inspections, identifying components and functions as required by the examiner; (c) confirm that the helicopter is in a serviceable and safe condition for flight; (d) check and complete all necessary documentation; (e) complete an appropriate passenger emergency procedure briefing for the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the elements of pre-flight inspection, including: (1) which items need to be inspected; (2) the reason(s) for checking each item and how to detect possible defects; (b) the inspection of the helicopter in accordance with an appropriate checklist; (c) the verification that the helicopter is in a safe condition for flight.
ATTITUDE	Situation awareness: — is aware of the airframe components and equipment. Effective workload management: — allocates appropriate time for the walkround procedure. Effective problem-solving and decision-making: — determines a suitable resolution when faced with discrepancies.

(c) Cockpit inspection, starting procedure	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to cockpit inspection and management, and of the procedures for starting engine(s) and rotor engagement.
SKILL	To determine that the applicant is able to: (a) secure all loose items in the cockpit; (b) complete all recommended cockpit inspection, engine/rotor starting and post-starting procedures using an approved checklist.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the use of safety belts, shoulder harnesses, and doors; (b) the use of checklists for engine-start and rotor-engagement procedures; (c) normal limitations for engine start and rotor engagement; (d) the action required in the event of a malfunction; (e) ground-safety procedures.
ATTITUDE	Situation awareness: — is aware of the immediate environment around the helicopter during the starting procedure; — identifies potential problems when observing the start sequence and conditions, and knows how to react. Effective communication: — makes a correct passenger briefing. Effective workload management: — completes all required tasks at the appropriate time; — organises material and equipment in an efficient manner so that they are accessible in flight. Effective problem-solving and decision-making: — identifies possible defects and threats, and takes corrective action.

(d) Communication and navigation equipment checks, selecting and setting frequencies	
OBJECTIVE	To determine that the applicant is able to select and identify all navigation and communication equipment for use in flight.
SKILL	To determine that the applicant is able to: (a) complete all recommended communication and navigation equipment test procedures; (b) select and set the appropriate frequencies and transponder codes; (c) correctly set all displays and instruments such as HSI, RMI, OBS, CDI and FD, as appropriate.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) communications and navigation equipment test procedures; (b) Morse code; (c) auto-ident functionality, where appropriate.
ATTITUDE	Situation awareness: — is aware of the communications and navigation frequencies required at each stage of the flight. Effective workload management: — conducts tests at the appropriate stage of pre-flight preparation. Effective communication: — briefs crew members on test process and results. Effective problem-solving and decision-making: — reacts to unexpected system malfunction; — replans as necessary.

(e) Pre-take-off procedure and ATC liaison	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of the pre-take-off procedures and the required actions.
SKILL	To determine that the applicant is able to: (a) complete all recommended pre-take-off checks using an approved checklist; (b) obtain ATC clearance and follow ATC instructions; (c) complete all necessary post-take-off checks; (d) use charts or other published information as required; (e) use correct lookout techniques; (f) observe the Rules of the air and ATC regulations; (g) comply with ATC instructions; (h) use standard R/T procedures and phraseology; (i) complete passenger and crew brief, as necessary; (j) operate on the ground and in the air with particular regard to passenger safety and comfort.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures and checklists; (b) RTF phraseology; (c) engine and other system checks, as required.

ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(f) Parking, shutdown, and post-flight procedure	
OBJECTIVE	To determine that the applicant is able to park the helicopter, shut down, and complete the required post-flight documentation.
SKILL	To determine that the applicant is able to: (a) complete post-landing checks and drills; (b) return the helicopter to the parking area and complete engine shutdown; (c) secure the helicopter and complete documentation.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) shutdown procedures; (b) tie-down/picketing procedures; (c) the required documentation, including the technical log.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter. Effective communication: — interacts effectively with all relevant agencies.

SECTION 2: HOVER MANOEUVRES, ADVANCED HANDLING, AND CONFINED AREAS	
(a) Take-off and landing (lift-off and touchdown)	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst performing vertical take-off and landing manoeuvres.
SKILL	To determine that the applicant is able to: (a) lift in order to establish a stable hover maintaining ground position and heading; (b) descend in order to land maintaining ground position and heading; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations; (b) power limitations for take-off; (c) hover checks; (d) post-landing checks.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates orientation throughout the manoeuvre; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's height/power setting/RRPM.

(b) Taxi and hover taxi	
OBJECTIVE	To determine that the applicant is able to perform a hover* taxi manoeuvre, and that is aware of the possible hazards associated with wind strength and direction relative to heading. [*Ground taxi, as required, for helicopters with a wheeled undercarriage]
SKILL	To determine that the applicant is able to: (a) control heading, height, and ground speed in hover taxi; (b) complete all necessary checks and drills throughout; (c) avoid Loss of Tail rotor Effectiveness (LTE).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) recommended taxi speeds and limitations; (b) causes of LTE; (c) height/velocity limitations; (d) yaw-rate limitations; (e) engine/power limitations.

ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises onset of, and recovery from, LTE.

(c) Stationary hover with headwind, crosswind, and tailwind	
OBJECTIVE	To determine that the applicant is able to establish and maintain a hover in various wind conditions.
SKILL	To determine that the applicant is able to: (a) maintain heading, height, and ground position whilst in the stationary hover into wind, crosswind, and downwind; (b) complete all necessary checks and drills throughout; (c) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) the effects of wind velocity on helicopter attitude.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.

(d) Stationary hover turns, 360 degrees left and right (spot turns)	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst carrying out a spot (pedal) turn in either direction.
SKILL	To determine that the applicant is able to: (a) demonstrate a spot (pedal) turn maintaining height, ground position, and rate of turn throughout; (b) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and tailwind conditions; (b) height/velocity limitations; (c) the effects of wind velocity on helicopter attitude; (d) yaw-rate limitations; (e) engine/power limitations; (f) causes of LTE.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — considers available power margin when determining direction of turn.

(e) Forward, sideways, and backwards hover manoeuvring	
OBJECTIVE	To determine that the applicant is able to manoeuvre the helicopter in the hover whilst maintaining a fixed heading/height.
SKILL	To determine that the applicant is able to: (a) establish and maintain the nominated height, heading, and speed; (b) perform a backward manoeuvre preceded by a lookout turn and an increase in hover height; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind/ground speed limitations for hover manoeuvres; (b) height/velocity limitations.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM.

(f) Simulated engine failure from the hover	
OBJECTIVE	To determine that the applicant is able to safely recover to the ground from the hover following a simulated engine failure.
SKILL	To determine that the applicant is able to: (a) stop the tendency to drift and roll; (b) stop the yaw tendency; (c) cushion the touchdown; (d) complete all necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) indications of engine failure/power loss; (b) RRPM limitations; (c) emergency operating procedures relating to engine failure.
ATTITUDE	Situation awareness: — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — makes appropriate R/T calls to ATC (simulated to the examiner).

(g) Quick stops into wind and downwind	
OBJECTIVE	To determine that the applicant is able to safely transition the helicopter from straight and level flight at low level to the hover, in both wind and downwind conditions, within a limited space.
SKILL	To determine that the applicant is able to: (a) into wind: lower the collective whilst simultaneously flaring the helicopter, maintaining height, and heading until the helicopter comes to a complete stop before descending into a low hover; (b) into downwind: either flare the helicopter and turn, or turn and flare the helicopter to bring it back into wind whilst maintaining height and not letting the speed fall below 30 knots until heading is within 30 degrees of the wind. Once helicopter has come to a complete stop, descends to a low hover; (c) maintain lookout throughout; (d) maintain directional control and balance throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) height/velocity limitations; (b) RRPM and engine limitations; (c) wind limitations.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM; Effective problem-solving and decision-making: — determines the appropriate technique for obstacle environment and available space.

(h) Sloping ground or unprepared sites landings and take-offs	
OBJECTIVE	To determine that the applicant is able to perform landing and take-off manoeuvres on a sloping surface, with the slope.
SKILL	To determine that the applicant is able to: (a) identify a landing area on slope, and conduct reconnaissance considering at least the following points: (1) size: large enough to land the helicopter without striking the tail/blades; (2) shape: valley, bowl, direction of slope; (3) surrounds: blade/tail clearance, FOD, trees/shrubs, people; (4) slope: within the limits of the helicopter/pilot; (5) surface: firm, slippery, muddy, rocky. (b) maintain heading and ground position, and prevent movement of helicopter on slope; (c) centralise controls after landing; (d) pre-position controls prior to take-off; (e) complete all necessary checks and drills throughout; (f) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) sloping ground limitations; (b) causes of dynamic rollover and preventative techniques.
ATTITUDE	Situation awareness: — awareness of proximity of main and tail rotors relative to sloping ground; — awareness of angle of bank throughout the manoeuvre. Effective problem-solving and decision-making: — termination of manoeuvre if unsafe conditions are recognised.

(i) Take-offs (various profiles)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stable climb in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate take-offs/transition from the hover as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout; (e) obtain ATC clearance, when required.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended take-off profiles; (b) recommended climb speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(j) Crosswind and downwind take-off (if practicable)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb in both crosswind and downwind conditions.

SKILL	To determine that the applicant is able to: (a) take off from the hover in crosswind/downwind as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind limitations for crosswind and downwind manoeuvres; (b) RRPM and engine/power limitations; (c) the effects of crosswind and tailwind on helicopter attitude.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — considers available power margin when determining direction of turn.

(k) Take-off at maximum take-off mass (actual or simulated)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb with the helicopter take-off mass at or close to the maximum allowable for the prevailing conditions.
SKILL	To determine that the applicant is able to: (a) use an appropriate technique in order to take off and transition from the hover ensuring that the helicopter is flown within the limits set by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter mass limitations; (b) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions, particularly wind velocity in relation to the helicopter. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(l) Approaches (various profiles)	
OBJECTIVE	To determine that the applicant is able to transition from cruise flight to a stable hover in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate an approach profile nominated by the examiner; (b) obtain ATC clearance, as required; (c) maintain a stable decelerative descent path from cruise to hover; (d) maintain directional control and balance throughout; (e) arrive over the nominated aiming/landing position; (f) complete all necessary checks and drills throughout; (g) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended approach profiles; (b) recommended approach speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(m) Limited power take-off and landing	
OBJECTIVE	To determine that the applicant is able to transition from a stationary position on the ground to a stabilised climb and from a stabilised approach to landing (when a hover is not achievable).

SKILL	To determine that the applicant is able to: (a) conduct a hover power check for which the examiner sets a simulated power limit to be used for the take-off; (b) transition into forward flight using an appropriate technique for the simulated power limit set by the examiner; (c) conduct an in-flight power check for which the examiner sets a simulated power limit to be used for the approach and landing; (d) apply an appropriate technique for the approach and landing using the simulated power limit set by the examiner; (e) maintain RRPM throughout; (f) maintain directional control and balance throughout; (g) complete all necessary checks and drills throughout; (h) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM and engine/power limitations; (b) the effects of limited power on hover performance; (c) approved techniques for running take-offs and landings; (d) height/velocity limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(n) Autorotations [FE(H) to select two items from the following: basic, range, low speed, and 360-degree turns]	
OBJECTIVE	To determine that the applicant is able to establish and maintain stable autorotative flight, and to manoeuvre the helicopter effectively in order to achieve the desired performance.

SKILL	To determine that the applicant is able to: (a) select an area and height/altitude for the nominated autorotation; (b) conduct HASEL (or other appropriate) checks; (c) establish straight and level flight at the nominated speed, height, and heading with cruise power set (preferably into wind); (d) initiate autorotation manoeuvre (with verbal warning); (e) achievef the appropriate parameters for the nominated technique; (f) control the engine during autorotation through movement of the throttle to idle position (only if appropriate and if briefed by the examiner); (g) make MAYDAY call (simulated to the examiner); (h) control RRPM throughout; (i) maintain directional control and balance throughout; (j) complete all necessary checks and drills throughout; (k) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits in autorotation; (b) the effects of speed/RRPM combinations on aircraft performance (ROD and distance-covered); (c) emergency operating procedures for simulated failure.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — makes timely emergency call to ATC (simulated to the examiner) containing all the relevant information; — ensures that passenger briefing is made. Effective problem-solving and decision-making: — revises technique as required to reach the intended landing site.

(o) Autorotative landing	
OBJECTIVE	To determine that the applicant is able to conduct a safe forced landing following autorotation.

SKILL	To determine that the applicant is able to: (a) identify a suitable landing area and, if appropriate, conduct reconnaissance (size, shape, surrounds, slope and surface); (b) establish final approach (into wind) with minimum drift by 300 feet AGL; (c) apply appropriate flare at suitable height for helicopter/environmental conditions; (d) cushion the touchdown, with a running landing if appropriate, whilst maintaining heading; (e) carefully lower the collective; (f) complete all necessary checks and drills throughout; (g) maintain lookout throughout; (h) maintain directional control and balance throughout; (i) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limitations for autorotation; (b) flare height appropriate for prevailing conditions; (c) attitude appropriate for flare in prevailing conditions; (d) height appropriate for setting landing attitude; (e) safe landing attitude limits.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

(p) Practise forced landing with power recovery	
OBJECTIVE	To determine that the applicant is able to transition from autorotative flight to a stabilised climb.
SKILL	To determine that the applicant is able to: (a) control the engine for recovery from autorotation through movement of the throttle to open position when instructed by the examiner to 'go around' (or at an agreed height/altitude), and establish a stabilised climb using the nominated climbing speed; (b) control RRPM throughout; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) throttle control techniques; (b) normal operating procedures.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(q) Confined areas: power checks, reconnaissance technique, approach and departure technique	
OBJECTIVE	To determine that the applicant is able to make an appropriate assessment of the suitability of confined areas for arrival and departure manoeuvres.

SKILL	To determine that the applicant is able to: (a) identify the nominated landing area, and conduct reconnaissance covering at least the following points (normally not conducted lower than 500 feet AGL): (1) size: is the confined area large enough for the pilot's ability and helicopter's size, and which type of approach will it require? (2) shape: in relation to the wind direction/final approach; (3) surrounds: (i) outer: habitation, hazards that may affect the circuit, approach, overshoot, (ii) inner: hazards in the immediate area of the landing site; (4) slope and surface: suitability of the landing site (may require confirmation prior to landing, and it may be appropriate to include other aspects such as sun, shadow, wires, etc.); (b) conduct power check (normally into wind, within 500 feet AGL of the landing area), noting power available; (c) conduct circuit and approach, and identify escape routes and landing committal point in order to carry out a landing, dummy approach or go around, as appropriate; (d) establish hover at appropriate height in the confined area (land/spot turn only if requested by the examiner); (e) conduct hover power check; (f) demonstrate a suitable take-off profile, in an appropriate direction, in order to depart from the confined area; (g) maintain directional control and balance throughout; (h) control RRPM throughout; (i) complete all necessary checks and drills throughout; (j) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter performance limitations; (b) helicopter dimensions; (c) effects of wind velocity in and around confined areas.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the height of the helicopter above the ground; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — plans appropriately; — completes all required tasks at an appropriate time. Effective communication: — ensures that correct passenger and crew briefings are made. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — makes a competent 'GO/NO GO' decision.

SECTION 3: NAVIGATION AND EN ROUTE PROCEDURES	
(a) Navigation and orientation at various altitudes or heights, and map-reading	
OBJECTIVE	To determine that the applicant is able to navigate using visual references (ground-to-map and map-to-ground references).
SKILL	To determine that the applicant is able to: (a) complete all elements of VFR planning for the route prescribed with particular reference to planned altitudes and safe levels of operation; (b) identify the helicopter's position by visual reference to ground features and map(s)/chart(s); (c) navigate by means of precomputed headings, ground speed, and elapsed time; (d) correct track error through suitable heading adjustment.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) flight-planning methodology including the relationship between wind velocity, IAS, ground speed, heading, and track; (b) the interpretation of aeronautical maps and charts.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Altitude or height, speed, heading control, observation of airspace, and altimeter-setting	
OBJECTIVE	To determine that the applicant is able to fly accurately whilst carrying out other activities relating to navigation.

SKILL	To determine that the applicant is able to: (a) control the helicopter's altitude, speed, and heading by using visual attitude flying techniques; (b) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (c) use the trim system, where appropriate; (d) observe airspace relating to the helicopter's flight path; (e) complete all necessary checks and drills; (f) set the altimeter to the appropriate subscale setting for the phase of flight.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying techniques with or without the use of autopilot as determined by the examiner; (b) the interpretation of aeronautical maps and charts; (c) altimeter-setting procedures; (d) airspace regulations.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's position in relation to external references. Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Monitoring of flight progress, flight log, fuel usage, endurance, ETA, assessment of track error, re-establishment of correct track, and instrument monitoring	
OBJECTIVE	To determine that the applicant is able to maintain good cockpit management, monitor flight progress, and keep a suitable record of the flight.

SKILL	To determine that the applicant is able to: (a) navigate by means of calculated headings, ground speed, and time; (b) appropriately correct heading to maintain track; (c) arrive at destinations or turning points within 3 minutes of estimated time of arrival (ETA); (d) if appropriate, configure the engine for cruise/endurance performance in accordance with the Flight Manual or other appropriate document guidance; (e) monitor fuel consumption for range or endurance, making adjustments as appropriate; (f) ckeck regularly for carburettor icing, if appropriate.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) the use of all elements of the flight log; (c) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

(d) Observation of weather conditions and diversion planning	
OBJECTIVE	To determine that the applicant is able to assess weather conditions and decide whether flight can continue under VFR, or plan and execute an alternative flight plan.

SKILL	To determine that the applicant is able to: (a) interpret weather information including: (1) METARs, (2) TAFs, (3) surface analysis charts, (4) weather radar charts, (5) wind and temperature charts, (6) SIGMETs, (7) ATIS reports, (8) NOTAMs; (b) confirm availability of alternate aerodromes; (c) calculate heading, ground speed, ETA, and fuel required during any unscheduled diversion; (d) calculate minimum safe altitude for track to new destination; (e) navigate by means of calculated headings, ground speed, and time; (f) maintain heading, height, and speed as computed in navigation log or advised to the examiner within the prescribed limits; (g) observe weather conditions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) decoding of available weather information; (b) the interpretation of aeronautical maps and charts; (c) airspace regulations.
ATTITUDE	Situation awareness: — is aware of current and forecast weather conditions; — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action; — replans flight plan as necessary.

(e) Tracking, positioning (NDB and/or VOR), identification of facilities	
OBJECTIVE	To determine that the applicant is able to: (a) select, identify, and interpret position/navigation information from appropriate ground-based radio and navigation aids or from GPS information as required or nominated by the examiner; (b) intercept and maintain given tracks or radials, or navigate to designated waypoints (VFR) using the navigation aids nominated by the examiner; (c) maintain the helicopter's heading, height, and speed within the prescribed limits.
SKILL	To determine that the applicant is able to: (a) select and identify the appropriate radio and navigation aids as required or nominated by examiner; (b) conduct navigation instrument functional checks (if not already completed); (c) verify and record the helicopter's position by reference to radio navigation equipment when required by the examiner; (d) intercept and maintain given tracks or radials using the navigation aids nominated.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) Morse code; (b) auto-ident functionality, where available; (c) the use of instrumentation to reference desired radial/track; (d) the configuration of navigation displays including HSI, RMI, OBS, FD, and autopilot; (e) transponder-setting procedures.
ATTITUDE	Situation awareness: — is aware of the helicopter's position in relation to external references (landmarks and navigation aids); — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions; — is aware of conflicting traffic movements. Effective workload management: — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight path as necessary.

(f) ATC liaison with due observance of regulations	
OBJECTIVE	To determine that the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.
SKILL	To determine that the applicant is able to: (a) set altimeters as appropriate; (b) maintain two-way R/T communication; (c) obtain ATC clearances and the appropriate level of service; (d) comply with ATC clearances and instructions; (e) comply with published departure/arrival procedure or clearance; (f) maintain adequate lookout and collision-avoidance awareness.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) communications failure procedures; (c) transponder-setting procedures.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — establishes communication with ATC on the correct frequencies and at the appropriate times; — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Effective workload management: — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making: — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification or change.

SECTION 4: FLIGHT PROCEDURES AND MANOEUVRES BY SOLE REFERENCE TO INSTRUMENTS	
(a) Level flight, control of heading, altitude or height, and speed	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in level flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control of the helicopter's altitude, speed, and heading using instrument-scanning techniques; (b) use the trim system, where appropriate; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions as allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(b) Rate-1 level turns onto specified headings, 180 to 360 degrees left and right	
OBJECTIVE	To determine that the applicant is able to control the helicopter's altitude, speed, and heading whilst performing Rate-1 turns onto headings as nominated by the examiner.
SKILL	To determine that the applicant is able to: (a) establish Rate-1 turns and roll out onto nominated headings; (b) demonstrate coordinated control of the helicopter's altitude, speed, and rate of turn using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for Rate-1 turns.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Climbing and descending, including turns at Rate 1 onto specified headings	
OBJECTIVE	To determine that the applicant is able to complete a coordinated climb/descent and turn at Rate 1 using the recommended climb speed or descent speed and nominated rates of climb and descent.
SKILL	To determine that the applicant is able to: (a) establish climb/descent and Rate-1 turns onto nominated height and headings; (b) demonstrate coordinated control of the helicopter's altitude, angle of bank, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for Rate-1 turns; (b) recommended climb/descent speeds and associated power settings.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(d) Recovery from unusual attitudes	
OBJECTIVE	To determine that the applicant is able to recover from unusual attitudes using coordinated control techniques and minimising height loss throughout the manoeuvre.

SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control inputs to recover from unusual attitude to pre-agreed recovery attitude; (b) establish safe airspeed in a 'wings level' attitude, in balance, and on an appropriate heading, and recover to planned altitude or minimum safe altitude, where applicable; (c) demonstrate instrument-scanning technique; (d) use the trim system, where appropriate; (e) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed limitations; (b) angle-of-bank limitations; (c) engine/power limitations; (d) RRPM limitations; (e) awareness of low-speed performance hazards such as entry in vortex ring state; (f) awareness of high-speed performance hazards such as retreating blade stall.
ATTITUDE	Situation awareness: — recognises the existence of unusual attitude; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(e) Turns with a 30-degree bank, turning up to 90 degrees left and right	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst manoeuvering as required for the exercise by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) establish steep turns (with a 30-degree angle of bank) onto nominated headings whilst maintaining altitude/height and speed; (b) control the helicopter's altitude, speed, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions, where allowed by the examiner.

ATTITUDE	Situation awareness — demostrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

SECTION 5: ABNORMAL AND EMERGENCY PROCEDURES	
Note 1: In cases where the test is conducted on an ME helicopter, a simulated fire drill, including an SE approach and landing, should be included in the test.	
Note 2: The FE shall select four items from the following:	
(a) Engine malfunctions including governor failure, carburettor or engine icing, and oil system, as appropriate	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the engine and associated systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(b) Fuel system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the fuel systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fuel system indications (normal and warning indications); (b) fuel system controls; (c) minimum fuel requirements; (d) fuel-flow rates; (e) abnormal and emergency operating procedures relating to fuel systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(c) Electrical system malfunction	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the electrical systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) electrical system indications (normal and warning indications); (b) electrical system controls; (c) electrical system limitations; (d) abnormal and emergency operating procedures relating to electrical systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(d) Hydraulic system malfunction including approach and landing without hydraulics, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the hydraulic systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) smoothly control inputs compensating for loss of hydraulic assistance; (c) analyse emergency or abnormal situation and formulate appropriate plan; (d) execute abnormal or emergency drills; (e) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (f) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (g) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hydraulic system indications (normal and warning indications); (b) hydraulic system controls; (c) hydraulic system limitations; (d) abnormal and emergency operating procedures relating to hydraulic systems.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(e) Main rotor or antitorque system malfunction (FFS or discussion only)	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the main rotor or antitorque systems.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) for main rotor failure, commence emergency descent in order to land immediately; (e) for antitorque system failure (fixed pitch), establish balanced flight configuration, if possible, and anticipate a running landing; (f) for antitorque system failure (loss of drive), enter autorotation immediately and recover with a power-off landing; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) rotor system indications (normal and warning indications); (b) rotor system controls; (c) RRPM limitations; (d) abnormal and emergency operating procedures relating to rotor systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(f) Fire drills including smoke control and removal, as applicable	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to indications of a fire in the engine or in the cabin and/or baggage areas.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills; (d) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (e) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (f) transmit appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) fire indications (engine, APU, gearbox, cabin and baggage bay warning indications); (b) fire extinguisher system controls; (c) OEI engine limitations; (d) abnormal and emergency operating procedures relating to fire.
ATTITUDE	Situation awareness: — identifies the source of the fire as soon as possible; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(g) Other abnormal and emergency procedures as outlined in the Flight Manual or other appropriate document, including ME helicopters:

(a) Simulated engine failure at take-off:

(1) rejected take-off at or before TDP, or safe forced landing at or before DPATO;

(2) shortly after TDP or DPATO.

(b) Landing with simulated engine failure:

(1) landing or go-around following engine failure before LDP or DPBL;

(2) following engine failure after LDP or safe forced landing after DPBL.

OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during a critical phase of the flight to ensure that a safe recovery can be made.

SKILL	To determine that the applicant is able to: (a) control RRPM; (b) optimise helicopter performance by selecting best speed and RRPM for the phase of flight; (c) maintain operating engine(s) within the limits; (d) adhere to an approved/recommended OEI profile; (e) analyse emergency or abnormal situation and execute appropriate plan; (f) execute abnormal or emergency drills; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.
ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

3.3.4.4. Flight Simulator or Flight & Navigation Procedure Trainer

Items in Section 4 may be performed in a helicopter FNPT or a helicopter FFS.

3.3.4.5. General note

An applicant for a skill test shall have received instruction on the same class or type of helicopter to be used in the test.

3.3.5. Pass/fail criteria

An applicant shall pass all the relevant sections of the skill test. If any item in a section is failed, that section is failed. Failure in more than one section will require the applicant to take the entire test again. An applicant failing only in one section shall only repeat the failed section. Failure in any section of the retest, including those sections that have been passed in a previous attempt, will require the applicant to take the entire test again. All relevant sections of the skill test shall be completed within 6 months. Failure to achieve a pass in all relevant sections of the test in two attempts will require further training.

Further training may be required following any failed skill test. There is no limit to the number of skill tests that may be attempted.

3.4. ATPL(H)

3.4.1. Who may test?

3.4.1.1. A TRE(H) provided that the test is conducted in either helicopter or FFS.

3.4.1.2. A SFE(H) provided that the test is conducted in an FFS.

3.4.1.3. In the case of combining a licence test with an OPC, the examiner shall have received appropriate standardisation by the operator for the conduct of the OPC in accordance with the operational requirements.

A TRE(H) or an SFE(H) may test if:

3.4.1.4. the applicant's licence has been issued by the same competent authority as the examiner's; or

3.4.1.5. in the case of an applicant whose competent authority is not the same one that issued the examiner certificate, the examiner shall have reviewed the latest available information containing the relevant national procedures of the applicant's competent authority.

3.4.2. Conduct of test

3.4.2.1. The examiner may choose between different skill test scenarios containing simulated relevant operations developed and approved by the competent authority. Full-flight simulators and other training devices, when available, shall be used, as established in this Part.

3.4.2.2. Should the applicant choose to terminate a skill test for reasons considered inadequate by the examiner, the applicant shall retake the entire skill test. If the test is terminated for reasons considered adequate by the examiner, only those sections not completed shall be tested in a further flight.

3.4.2.3. At the discretion of the examiner, any manoeuvre or procedure of the test may be repeated once by the applicant. The examiner may stop the test at any stage if it is considered that the applicant's demonstration of flying skills requires a complete retest.

3.4.2.4. The applicant should complete all items at attempt number one prior to retesting any item (attempt number two). When conducting the test in a helicopter, it may be inappropriate or impossible to complete the first attempt due to ATC or external influences. This flexibility would not be appropriate or required during simulator testing.

3.4.2.5. An applicant shall be required to fly the helicopter from a position where the PIC or co-pilot functions, as relevant, can be performed and to carry out the test as if there was no other crew member present if taking the test under single-pilot conditions. Responsibility for the flight shall be allocated in accordance with national regulations.

3.4.2.6. During pre-flight preparation for the test, the applicant is required to determine power settings and speeds. The applicant shall indicate to the examiner the checks and duties carried out, including the identification of radio facilities. Tests shall be completed in accordance with the checklist for the helicopter on which the test is being taken and, if applicable, with the MCC concept. Performance data for take-off, approach, and landing shall be calculated by the applicant in compliance with the Flight Manual or other appropriate document for the helicopter used. Decision heights/altitude, minimum descent heights/altitudes, and missed approach point shall be agreed upon with the examiner.

3.4.2.7. The examiner shall take no part in the operation of the helicopter except where intervention is necessary in the interest of safety or to avoid unacceptable delay to other traffic.

3.4.3. Flight test tolerances

3.4.3.1. The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the helicopter used.

3.4.3.1.1. IFR flight limits

(1) Height:	(i) generally: ± 100 feet
	(ii) starting a go-around at DH/DA: + 50 feet/– 0 feet
	(iii) MDH/MDA: + 50 feet/– 0 feet
(2) Tracking on radio aids:	
	(i) normal flight and with simulated emergency: ± 5 degrees
(3) On precision approach:	
	(i) half-scale deflection, azimuth, and glide path
(4) Heading:	(i) normal operations: ± 5 degrees
	(ii) abnormal operations/emergency: ± 10 degrees
(5) Speed:	(i) generally: ± 10 knots
	(ii) with simulated engine failure: + 10 knots/– 5 knots
(4) Ground drift:	(i) take-off: hover IGE: ± 3 feet
	(ii) landing: no sideways or backwards movement

3.4.3.1.2. VFR flight limits

(1) Height:	(i) generally: ± 100 feet
(2) Heading:	(i) normal operations: ± 5 degrees
	(ii) abnormal operations/emergency: ± 10 degrees

(3) Speed: (i) generally: ± 10 knots

(ii) with simulated engine failure: + 10 knots/– 5 knots

(4) Ground drift: (i) take-off: hover IGE: ± 3 feet

(ii) landing: 2 feet (with 0 feet rearward or lateral flight)

3.4.4. Content of the test

3.4.4.1. Expanded guidance

Applicants for the skill test for the issue of an ATPL(H) shall take only Section 1 to 4 and, if applicable, Section 6.

The starred items (*) shall be flown in actual or simulated IMC, only by applicants wishing to renew or revalidate an IR(H), or extend the privileges of that rating to another type.

Instrument flight procedures (Section 5) shall be performed only by applicants wishing to renew or revalidate an IR(H), or extend the privileges of that rating to another type. An FFS or FTD 2/3 may be used for this purpose.

Using a reference system of five test sections, the table below describes the required competency standards for every item of test or check listed in Part-FCL.

The table is separated into four rows as follows:

PHASE OF TEST OR CHECK	
Title of assessed item taken from the Part-FCL schedule	
OBJECTIVE	This cell describes the applicant's proficiency to be assessed by the examiner.
SKILL	This cell describes the competency elements that the applicant demonstrates: — manual helicopter control; — effective flight path management through proper use of the flight management system guidance and automation; — application of procedures.
KNOWLEDGE	This cell describes the knowledge required to meet the objectives.
ATTITUDE	This cell describes the competency elements encapsulated in airmanship, CRM, and threat and error management such as: — situation awareness; — effective communication; — leadership and teamwork; — effective workload management; — effective problem-solving and decision-making.
GENERAL	
In most phases of the flight there are competencies that apply to a group of manoeuvres. In order to avoid repetition, the common competencies are grouped under the 'General' item heading. Examiners must refer to both the 'General' heading criteria and to the criteria under the specific item being assessed, e.g. 'Turns — General', plus 'Steep turns' as the specific item.	

Note: It is sometimes possible to place a competence in either of the two rows because physical skills, knowledge, etc., cannot always be clearly separated; this is not critical for assessments. The intention is to assist the examiner in identifying what competencies are required for satisfactory performance of a test item, and to assist them in identifying why an applicant may have failed to achieve a pass in an item.

3.4.4.2. Detailed testing/checking standards — ATPL(H)

The test sections are the following:

SECTION 1: PRE-FLIGHT PREPARATIONS AND CHECKS

SECTION 2: FLIGHT MANOEUVRES AND PROCEDURES

SECTION 3: NORMAL AND ABNORMAL PROCEDURES

SECTION 4: ABNORMAL AND EMERGENCY PROCEDURES

SECTION 5: INSTRUMENT FLIGHT PROCEDURES

SECTION 6: USE OF OPTIONAL EQUIPMENT

SECTION 1: PRE-FLIGHT PREPARATIONS AND CHECKS	
Use of checklist, airmanship, control of helicopter by external visual reference, anti-icing/de-icing procedures, etc., apply to all sections.	
1.1. Helicopter exterior visual inspection, location of each item, and purpose of inspection ([M] if performed in a helicopter)	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to pre-flight inspection of the helicopter.
SKILL	To determine that the applicant is able to: (a) use an approved checklist to perform all the elements of the helicopter pre-flight inspection, identifying components and functions as required by the examiner; (b) confirm that the helicopter is in a serviceable and safe condition for flight; (c) check and complete all necessary documentation; (d) complete an appropriate passenger emergency procedure briefing for the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the elements of pre-flight inspection, including: (1) which items need to be inspected; (2) the reason(s) for checking each item and how to detect possible defects; (b) the inspection the helicopter in accordance with an appropriate checklist; (c) the verification that the helicopter is in a safe condition for flight.
ATTITUDE	Situation awareness: — is aware of airframe components and equipment. Effective workload management: — allocates appropriate time for the walkround procedure. Effective problem-solving and decision-making: — determines a suitable resolution when faced with discrepancies.

1.2. Cockpit inspection [M]	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to cockpit inspection and management, and of the procedures for starting engine(s) and rotor engagement.
SKILL	To determine that the applicant is able to: (a) ensure that all loose items in the cockpit are secured; (b) complete all elements of the helicopter internal and cockpit pre-flight inspections as detailed in the checklist, Flight Manual or other appropriate document.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the understanding of the use of safety belts, shoulder harnesses, and doors; (b) ground-safety procedures.
ATTITUDE	Situation awareness: — is aware of the immediate environment around the helicopter during the starting procedure; — identifies potential problems when observing the start sequence, the conditions, and knows how to react. Effective communication: — makes a correct passenger briefing. Effective workload management: — completes all required tasks at the appropriate time; — organises material and equipment in an efficient manner so they are accessible in flight. Effective problem-solving and decision-making: — identifies possible defects and threats, and takes corrective action.

1.3. Starting procedures, radio and navigation equipment checks, selecting and setting navigation and communication frequencies [M]	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the elements relating to cockpit inspection and management, and of the procedures for starting engine(s) and rotor engagement, and is able to select and identify all navigation and communication equipment for use in flight.
SKILL	To determine that the applicant is able to: (a) ensure that all loose items in the cockpit are secured; (b) complete all elements of the helicopter internal and cockpit pre-flight inspections as detailed in the checklist, Flight Manual or other appropriate document; (c) complete all recommended communication and navigation equipment test procedures; (d) select and set the appropriate frequencies and transponder codes; (e) correctly set all displays and instruments such as HSI, RMI, OBS, CDI and FD, as appropriate.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) checklists for engine-start and rotor-engagement procedures; (b) normal limitations for engine start and rotor engagement; (c) the action required in the event of a malfunction; (d) ground-safety procedures; (e) communications and navigation equipment test procedures; (f) Morse code; (g) auto-ident functionality, where appropriate.
ATTITUDE	Situation awareness: — is aware of the immediate environment around the helicopter during the starting procedure; — identifies potential problems when observing the start sequence, the conditions, and knows how to react; — is aware of the communications and navigation frequencies required at each stage of the flight. Effective communication: — makes a correct passenger briefing; — briefs crew members on test process and results. Effective workload management: — completes all required tasks at an appropriate time; — organises material and equipment in an efficient manner so they are accessible in flight. Effective problem-solving and decision-making: — identifies possible defects and threats, and takes corrective action.

1.4. Taxiing/air-taxiing in compliance with air traffic control instructions or with instructions of an instructor [M]	
OBJECTIVE	To determine that the applicant is able to perform a hover* taxi manoeuvre and is aware of the possible hazards associated with wind strength and direction relative to heading. [*Ground taxiing, as required, for helicopters with a wheeled undercarriage]
SKILL	To determine that the applicant is able to: (a) complete all recommended taxiing checks and procedures; (b) comply with ATC instructions, airport markings, and signals; (c) maintain control of and proper spacing from other helicopters and obstacles; (d) use standard RTF procedures and phraseology.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) recommended taxi speeds and limitations; (b) causes of LTE; (c) height/velocity limitations; (d) yaw-rate limitations; (e) engine/power limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises onset of, and recovery from, LTE.

1.5. Pre-take-off procedure and checks [M]	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of the pre-take-off procedures and the required actions.

SKILL	To determine that the applicant is able to: (a) complete all recommended pre-take-off checks using an approved checklist; (b) obtain ATC clearance and follow ATC instructions; (c) complete all necessary post-take-off checks; (d) use charts or other published information as required; (e) use correct lookout techniques; (f) observe the Rules of the air and ATC regulations; (g) comply with ATC instructions; (h) use standard R/T procedures and phraseology; (i) comply with ATC instructions; (j) complete passenger and crew brief, as necessary; (k) operate on the ground and in the air with particular regard to passenger safety and comfort.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures and checklist; (b) RTF phraseology; (c) engine and other system checks, as required.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

SECTION 2: FLIGHT MANOEUVRES AND PROCEDURES	
2.1. Take-offs (various profiles) [M]	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stable climb in accordance with an approved/recommended profile.
SKILL	To determine that the applicant is able to: (a) demonstrate a take-off/transition from the hover as detailed by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout; (e) obtain ATC clearance, when required.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended take-off profiles; (b) recommended climb speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

2.2. Sloping ground or crosswind take-offs and landings	
OBJECTIVE	To determine that the applicant is able to conduct landing and take-off manoeuvres on a sloping surface.

SKILL	To determine that the applicant is able to: (a) identify a landing area on slope, and conduct reconnaissance considering at least the following points: (1) size: large enough to land the helicopter without striking the tail/blades; (2) shape: valley, bowl, direction of slope; (3) surrounds: blade/tail clearance, FOD, trees/shrubs, people; (4) slope: within the limits of the helicopter/pilot; (5) surface: firm, slippery, muddy, rocky; (b) maintain heading and ground position, and prevent movement of helicopter on slope; (c) centralise controls after landing; (d) pre-position controls prior to take-off; (e) complete all necessary checks and drills throughout; (f) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) sloping ground limitations; (b) causes of dynamic rollover and preventative techniques.
ATTITUDE	Situation awareness: — awareness of proximity of main and tail rotors relative to sloping ground; — awareness of angle of bank throughout the manoeuvre. Effective problem-solving and decision-making: — termination of manoeuvre if unsafe conditions are recognised.

2.3. Take-off at maximum take-off mass (actual or simulated maximum take-off mass)	
OBJECTIVE	To determine that the applicant is able to transition from a hover to a stabilised climb with the helicopter take-off mass at or close to the maximum allowable for the prevailing conditions.
SKILL	To determine that the applicant is able to: (a) use an appropriate technique in order to take off and transition from the hover ensuring that the helicopter is flown within the limits set by the examiner; (b) maintain directional control and balance throughout; (c) complete all necessary checks and drills throughout; (d) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) helicopter mass limitations; (b) RRPM and engine/power limitations.

ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — assesses environmental conditions, particularly wind velocity in relation to the helicopter. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change.

2.4. Take-off with simulated engine failure shortly before reaching TDP or DPATO [M]	
OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during the early take-off phase of flight to ensure that a safe recovery can be made.
SKILL	To determine that the applicant is able to: (a) control RRPM; (b) stop the tendency to drift and roll; (c) stop the yaw tendency; (d) cushion the touchdown with available RRPM: centralises cyclic, lowers collective, applies brakes (for wheeled undercarriage helicopters), and stops aircraft in minimum distance; (e) maintain operating engine(s) within the limits; (f) analyse emergency or abnormal situation and execute appropriate plan; (g) execute abnormal or emergency drills; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.

ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

2.4.1. Take-off with simulated engine failure shortly after reaching TDP or DPATO [M]	
OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during a critical phase of flight to ensure that a safe recovery can be made.
SKILL	To determine that the applicant is able to: (a) control RRPM; (b) optimise helicopter performance by selecting best speed and RRPM for the phase of flight; (c) maintain operating engine(s) within the limits; (d) adhere to an approved/recommended OEI profile; (e) analyse emergency or abnormal situation and execute appropriate plan; (f) execute abnormal or emergency drills; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (i) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.

ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

2.5. Climbing and descending turns onto specified heading [M]	
OBJECTIVE	To determine that the applicant is able to complete a coordinated climb/descent whilst turning onto headings determined by the examiner.
SKILL	To determine that the applicant is able to: (a) establish climb/descent and turns onto nominated height, headings, and rates of bank; (b) control the helicopter's altitude and heading using visual attitude flying technique; (c) maintain control and balance throughout; (d) complete all necessary checks and drills throughout; (e) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for Rate-1 turns; (b) recommended climb/descent speeds and associated power settings; (c) angle-of-bank limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

2.5.1. Turns with a 30-degree bank, 180 to 360 degrees left and right, by sole reference to instruments [M]	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst manoeuvering as required for the exercise by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) establish steep turns (with a 30-degree angle of bank) onto nominated headings whilst maintaining altitude/height and speed; (b) control the helicopter's altitude, speed, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions, where allowed by the examiner.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

2.6. Autorotative descent [M]	
OBJECTIVE	To determine that the applicant is able to establish and maintain stable autorotative flight and manoeuvre the helicopter effectively in order to achieve the desired performance.

SKILL	To determine that the applicant is able to: (a) select an area and height/altitude for the nominated autorotation; (b) conduct HASEL (or other appropriate) checks; (c) establish straight and level flight at the nominated speed, height, and heading with cruise power set (preferably into wind); (d) initiate autorotation manoeuvre (with verbal warning); (e) achieve the appropriate parameters for the nominated technique; (f) control the engine during autorotation through movement of the throttle to idle position (only if appropriate and if briefed by the examiner); (g) make MAYDAY call (simulated to the examiner); (h) control RRPM throughout; (i) maintain directional control and balance throughout; (j) complete all necessary checks and drills throughout; (k) maintain lookout throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits in autorotation; (b) the effects of speed/RRPM combinations on aircraft performance (ROD and distance-covered); (c) emergency operating procedures for simulated failure.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — makes timely emergency call to ATC (simulated to the examiner) containing all relevant information; — ensures that passenger briefing is made. Effective problem-solving and decision-making: — revises technique as required to reach intended landing site.

2.6.1. Autorotative landing (SEH only) or power recovery [M]	
Note: The examiner shall nominate the landing area, entry speed, height, and heading. The candidate shall select the entry point unless otherwise instructed.	
OBJECTIVE	To determine that the applicant is able to conduct a safe forced landing following autorotation.

SKILL	To determine that the applicant is able to: (a) identify a suitable landing area, and if appropriate conduct reconnaissance (size, shape, surrounds, slope and surface); (b) establish final approach (into wind), with minimum drift by 300 feet AGL; (c) apply appropriate flare at suitable height for helicopter/environmental conditions; (d) cushion the touchdown, with a running landing if appropriate, whilst maintaining heading; (e) carefully lower the collective; (f) complete all necessary checks and drills throughout; (g) maintain lookout throughout; (h) maintain directional control and balance throughout; (i) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limitations for autorotation; (b) flare height appropriate for prevailing conditions; (c) attitude appropriate for flare in prevailing conditions; (d) height appropriate for setting landing attitude; (e) safe landing attitude limits.
ATTITUDE	Situation awareness: — is aware of the flight path relative to the intended landing site; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit; — completes all required tasks at an appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and, when necessary, requests clarification or change.

2.7. Landings, various profiles [M]	
OBJECTIVE	To determine that the applicant is able to transition from cruise flight to a stable hover in accordance with an approved/recommended profile and execute a landing.
SKILL	To determine that the applicant is able to: (a) demonstrate an approach profile nominated by the examiner; (b) obtain ATC clearance, as required; (c) maintain a stable decelerative descent path from cruise to hover; (d) maintain directional control and balance throughout; (e) arrive over the nominated aiming/landing position; (f) land vertically from hover; (g) complete all necessary checks and drills throughout; (h) maintain lookout throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approved/recommended approach profiles; (b) recommended approach speeds; (c) RRPM and engine/power limitations.
ATTITUDE	Situation awareness: — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter; — notes surface conditions and the possible effects on the helicopter; — is aware of the helicopter's speed/height/power setting/RRPM. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made (MPH only); — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

2.7.1. Go-around or landing following simulated engine failure before LDP or DPBL (ME helicopters only) [M]	
OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during a critical phase of the flight in order to ensure that a safe recovery can be made in the form of a go-around or a landing.
SKILL	To determine that the applicant is able to: (a) control RRPM; (b) optimise helicopter performance by selecting best speed and RRPM for the phase of flight; (c) maintain operating engine(s) within the limits; (d) adhere to an approved/recommended OEI profile; (e) analyse emergency or abnormal situation and execute appropriate plan; (f) execute abnormal or emergency drills; (g) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (h) for landing, plan for a running landing whilst minimising drift and ensuring that the helicopter is lined up with the landing direction; (i) cushions the touchdown with the available RRPM: centralises cyclic, lowers collective, applies brakes (for wheeled undercarriage helicopters), and stops aircraft in minimum distance; (j) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (k) transmit appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.
ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

2.7.2. Landing following simulated engine failure after LDP or DPBL [M]	
OBJECTIVE	To determine that the applicant is able to control and manoeuvre the helicopter following an engine failure during a critical phase of the flight in order to ensure that a safe recovery can be made in the form of an OEI landing.

SKILL	To determine that the applicant is able to: (a) control RRPM; (b) optimise helicopter performance by selecting best speed and RRPM for continued approach; (c) maintain operating engine(s) within the limits; (d) adhere to an approved/recommended OEI profile; (e) analyse emergency or abnormal situation and execute appropriate plan; (f) executeabnormal or emergency drills; (g) plan for a running landing by minimising drift and ensuring that the helicopter is lined up with the landing direction; (h) cushions the touchdown with available RRPM: centralises cyclic, lowers collective, applies brakes (for wheeled undercarriage helicopters), and stops aircraft in minimum distance; (i) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (j) transmit appropriate emergency R/T calls (simulated to the examiner).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) engine system indications (normal and warning indications); (b) engine system controls; (c) engine limitations; (d) abnormal and emergency operating procedures relating to engine systems.
ATTITUDE	Situation awareness: — identifies failed engine promptly; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the immediate ground environment around the helicopter; — demonstrates terrain awareness. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — assesses likely cause of engine failure and possibility of restart; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — assesses helicopter performance capabilities and replans flight as necessary.

SECTION 3: NORMAL AND ABNORMAL OPERATIONS	
3. Normal and abnormal operations of the following systems and procedures: **(A mandatory minimum of three items shall be selected from this Section) [M]**	
3.1. Engine **3.2. Air conditioning (heating, ventilation)** **3.3. Pitot/static system** **3.4. Fuel system** **3.5. Electrical system** **3.6. Hydraulic system** **3.7. Flight control and trim system** **3.8. Anti-icing and de-icing system** **3.9. Autopilot/Flight Director** **3.10. Stability-augmentation devices** **3.11. Weather radar, radio altimeter, transponder** **3.12. Area navigation system** **3.13. Landing gear system** **3.14. Auxiliary power unit (if applicable)** **3.15. Radio, navigation equipment, instruments, flight management system**	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst carrying out the appropriate drills in relation to these systems as per the Flight Manual or other appropriate document.
SKILL	To determine that the applicant is able to: (for normal operations) (a) use systems appropriate to checklists or operational requirements. (for abnormal operations) (b) analyse abnormal situations and formulate appropriate plan; (c) execute abnormal drills in accordance with the Flight Manual or other appropriate document (touch drills only); (d) plan, execute, and demonstrate further actions to ensure safe recovery of helicopter, passengers, and crew to an airfield/LS as appropriate; (e) use checklist to confirm actions when time permits; (f) make suitable emergency R/T calls (given to the examiner but not transmitted).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) systems knowledge; (b) normal operating procedures; (c) abnormal and emergency operating procedures.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

SECTION 4: ABNORMAL AND EMERGENCY PROCEDURES	
Abnormal and emergency operations of the following systems and procedures: **(A mandatory minimum of three items shall be selected from this Section) [M]**	
4.1. Fire drills (including evacuation, if applicable) **4.2. Smoke control and removal** **4.3. Engine failure, shutdown, and restart at a safe height** **4.4. Fuel-dumping (simulated, if applicable)** **4.5. Tail rotor control failure (simulated, if applicable)** **4.5.1. Tail rotor loss (simulated, if applicable)** **4.6. Incapacitation of a crew member (MPH only)** **4.7. Transmission malfunctions** **4.8. Other emergency procedures as outlined in the appropriate Flight Manual or other appropriate document**	
OBJECTIVE	To determine that the applicant is able to recognise and react appropriately to unexpected malfunctions of the relevant systems.

SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) analyse emergency or abnormal situation and formulate appropriate plan; (c) execute abnormal or emergency drills in accordance with the Flight Manual or other appropriate document (touch drills only); (d) plan, execute and demonstrate further actions to ensure safe recovery of helicopter, passengers and crew to an airfield/LS as appropriate; (e) use check list to confirm actions when time permits; (f) make suitable emergency R/T calls (given to the examiner but not transmitted).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) system indications (normal and warning indications); (b) system controls; (c) system limitations; (d) abnormal and emergency operating procedures relating to the systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, Normal Operating Procedures and Emergency Operating Procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

SECTION 5: INSTRUMENT FLIGHT PROCEDURES	
Note: All elements in this Section to be flown in IMC or simulated IMC	
5.1. Instrument take-off: transition to instrument flight is required as soon as possible after becoming airborne	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter and establish a stabilised climb in accordance with the departure clearance.
SKILL	To determine that the applicant is able to: (a) take over control of the helicopter at agreed point in flight using pre-briefed 'handover' protocol; (b) establish the climb, complete a smooth transition to instrument flight, and complete post-take-off checks and drills; (c) complete the Standard Instrument Departure (SID) procedure or follow the ATC departure instructions; (d) maintain helicopter control, speed, heading, level, and balance; (e) apply appropriate drift corrections to maintain published departure track or as instructed by ATC; (f) complete all necessary climb checks including altimeter-setting procedures and ice precautions; (g) use the trim system, as appropriate; (h) use the autopilot and fight director functions as allowed by the examiner; (i) use instrument-scanning technique.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal procedures; (b) the relationship between climb performance parameters, pitch attitude and speed, power setting and ROC.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter's position in relation to the desired flight path. Effective workload management: — arranges cockpit reference material to be available at the appropriate time. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors and takes timely and appropriate corrective action.

5.1.1. Simulated engine failure during departure [M]	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter whilst maximising performance in the event of a simulated engine failure, by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) maintain the desired flight path using the maximum power available; (b) demonstrate smooth and accurate RRPM, ROC, and power management; (c) secure the failed engine at an appropriate time; (d) replan the flight taking into account OEI performance.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) OEI performance limitations; (b) OEI take-off and climb profiles; (c) minimum safe altitudes for flight plan; (d) abnormal and emergency procedures relating to engine failure.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

5.2. Adherence to departure and arrival routes and to ATC instructions [M]	
OBJECTIVE	To determine that the applicant is able to complete a Standard Instrument Departure (SID) and StandardTerminal Arrival Routes (STAR) or follow the ATC departure/arrival instructions when transitioning into and from the en route phase.
SKILL	To determine that the applicant is able to: (a) maintain directional control and make drift corrections within the acceptable limits of speed, heading, height and track, radials, bearings, and courses (QDM/QDR); (b) identify any navigation aids to be used; (c) comply with any noise, routing or departure procedures and ATC clearances; (d) complete all necessary climb checks including altimeter-setting procedures and ice precautions; (e) use the trim system, as appropriate; (f) use the autopilot and Flight Director functions as allowed by the examiner; (g) use instrument-scanning technique; (h) complete normal operating procedures.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures; (b) the interpretation of aeronautical maps and charts; (c) the limitations on the use of ground-based navigations aids; (d) the limitations on the use of GNSS-derived navigational information; (e) altimeter-setting procedures; (f) regulatory requirements associated with the airspace used.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids; — demonstrates terrain awareness; — is aware of conflicting traffic movements. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and changes in environmental conditions and takes mitigatory action; — recognises performance errors in relation to the desired flight path, and takes timely and appropriate corrective action.

5.3. Holding procedures	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of and proficiency in holding procedures for standard and non-standard, published and non-published IFR holding patterns.
SKILL	To determine that the applicant is able to: (a) complete the appropriate entry procedure to hold in accordance with SOPs or ATC; (b) make appropriate corrections to speed to manage transit of holding fix at EAT, if required; (c) recognise arrival at the clearance limit or holding fix; (d) comply with ATC reporting requirements; (e) use correct timing criteria where required by the procedure or by ATC; (f) use wind-drift correction techniques accurately to maintain the appropriate joining and holding pattern, and to establish and maintain the correct tracks and bearings; (g) maintain altitude as required by the procedure or by ATC.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hold-entry procedures; (b) holding procedures; (c) the interpretation of aeronautical maps and charts; (d) holding endurance including fuel on board, fuel flow whilst holding, and fuel required to alternate.
ATTITUDE	Situation awareness — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time; Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately; Effective problem-solving and decision-making: — recognises navigation errors or system malfunctions, and takes timely and appropriate corrective action.

5.4. ILS approaches down to CAT 1 decision height	
5.4.1. Manually without Flight Director [M] **5.4.2. Manually with Flight Director (where applicable) [M]** **5.4.3. With coupled autopilot** **5.4.4. Manually with one engine simulated inoperative (engine failure has to be simulated during final approach before passing the outer marker (OM) until touchdown or until completion of the missed approach procedure [M])**	
OBJECTIVE	To determine that the applicant is able to establish a stabilised approach, in trim for the configuration and speed, using appropriate techniques for attitude, heading, and power control.
SKILL	To determine that the applicant is able to: (a) maintain localiser and glide slope indications within the prescribed limits; (b) use the trim system, as appropriate; (c) use the autopilot functionality as allowed by the examiner; (d) maintain a stabilised approach path from FAF to approach minima, arriving at DA/DH in such a position that a landing or go-around can be accomplished safely; (e) prepare back-up communication and navigation frequencies for continued approach in the event of radio/navigation aid/display/equipment failure; (f) obtain ATC clearances as required, and comply with all ATC instructions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) stabilised-approach criteria; (b) the interpretation of aeronautical maps and charts; (c) communications, navigation, and autoflight systems; (d) the actions to be taken in the event of radio aid/communications/display/equipment failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

5.5. Non-precision approach down to the minimum descent altitude MDA/H [M]	
OBJECTIVE	To determine that the applicant is able to establish a stabilised approach, in trim for the configuration and speed, using appropriate techniques for attitude, heading, and power control.
SKILL	To determine that the applicant is able to: (a) maintain localiser and glide slope indications within the prescribed limits; (b) use the trim system, as appropriate; (c) use the autopilot functionality as allowed by the examiner; (d) maintain a stabilised approach path from FAF to approach minima, arriving at MDA/MDH in such a position that a landing or go-around can be accomplished safely; (e) prepare back-up communication and navigation frequencies for continued approach in the event of radio/navigation aid/display/equipment failure; (f) obtain ATC clearances as required, and comply with all ATC instructions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) stabilised-approach criteria; (b) the interpretation of aeronautical maps and charts; (c) communications, navigation, and autoflight systems; (d) the actions to be taken in the event of radio aid/communications/display/equipment failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

5.6. Go-around with all engines operating on reaching DA/DH or MDA/MDH	
OBJECTIVE	To determine that the applicant is able to perform the go-around procedure with all engines operating* after an ILS approach on reaching DA/DH or MDA/MDH.
SKILL	To determine that the applicant is able to demonstrate manual helicopter control, effective flight path management, and application of procedures by: (a) initiating the go-around procedure promptly by the timely application of power, establishing the proper climb attitude, and reconfiguring the helicopter in accordance with the approved procedures; (b) maintaining the desired altitudes, airspeed, and heading, and accurately tracking courses, radials, and bearings; (c) complying with the appropriate missed approach procedure or ATC clearance; (d) using RNAV guidance and automation where applicable; (e) accomplishing the appropriate checklist items in a timely manner in accordance with the approved procedures; (f) interpreting correctly the ATC clearance received and, when necessary, requesting clarification, verification, or change; (g) requesting clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as otherwise directed by the examiner.

KNOWLEDGE	To determine that the applicant demonstrates knowledge of the operator policy relating but not limited to: (a) flight procedures; (b) all-weather operations; (c) stabilised-approach criteria; (d) visual references; (e) go-around all-engines pattern; (f) helicopter limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

5.6.1. Other missed approaches	
OBJECTIVE	To determine that the applicant is able to perform the go-around procedure with all engines operating during, or at the termination of, various approach procedures.
SKILL	To determine that the applicant is able to demonstrate manual helicopter control, effective flight path management, and application of procedures by; (a) initiating the go-around procedure promptly by the timely application of power, establishing the proper climb attitude, and reconfiguring the helicopter in accordance with the approved procedures; (b) maintaining the desired altitudes, airspeed, and heading, and accurately tracking courses, radials, and bearings; (c) complying with the appropriate missed approach procedure or ATC clearance; (d) using RNAV guidance and automation where applicable; (e) accomplishing the appropriate checklist items in a timely manner in accordance with approved procedures; (f) interpreting correctly the ATC clearance received and, when necessary, requesting clarification, verification, or change; (g) requesting clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as otherwise directed by the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge of the operator policy relating but not limited to: (a) flight procedures; (b) all-weather operations; (c) stabilised-approach criteria; (d) visual references; (e) go-around all-engines pattern; (f) helicopter limitations.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

5.6.2. Go-around with one engine simulated inoperative on reaching DA/DH or MDA/MDH [M]	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in the event of a simulated engine failure by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) maintain the desired flight path using the maximum power available; (b) demonstrate RRPM, speed, ROC, and power management; (c) secure the failed engine at an appropriate time; (d) replan the flight taking into account OEI performance.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) OEI performance limitations; (b) OEI take-off or landing profiles; (c) minimum safe altitudes for flight plan; (d) abnormal and emergency procedures relating to engine failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

5.7. IMC autorotation with power recovery [M]	
OBJECTIVE	To determine that the applicant is able to enter into, establish, and recover from autorotation flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) enter into autorotation whilst maintaining RRPM within the limits; (b) orientate the helicopter with respect to last known wind direction; (c) adjust and maintain speed for minimum ROD; (d) complete emergency drills during descent; (e) consider engine restart procedures; (f) initiate flare at altitude pre-agreed as exercise 'floor'; (g) apply power to establish AEO climb to regain safe flight path.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits for autorotation; (b) recommended speed/RRPM combinations to maximise performance in autorotation; (c) previously agreed exercise 'floor'/minimum altitude; (d) emergency operating procedures for simulated failure leading to autorotation.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corective action; — replans flight as necessary.

5.8. Recovery from unusual attitudes [M]	
OBJECTIVE	To determine that the applicant is able to recover from unusual attitudes using coordinated control techniques and minimising height loss throughout the manoeuvre.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control inputs to recover from unusual attitude to pre-agreed recovery attitude; (b) establish safe airspeed in a 'wings level' attitude, in balance, on an appropriate heading and recovery to planned altitude or minimum safe altitude, where applicable; (c) demonstrate instrument-scanning technique; (d) use the trim system, where appropriate; (e) control RRPM throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed limitations; (b) angle-of-bank limitations; (c) engine/power limitations; (d) RRPM limitations; (e) awareness of low-speed performance hazards such as entry in vortex ring state; (f) awareness of high-speed performance hazards such as retreating blade stall.
ATTITUDE	Situation awareness: — recognises the existence of unusual attitude; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

SECTION 6: USE OF OPTIONAL EQUIPMENT	
6. Use of optional equipment	
OBJECTIVE	To determine that the applicant is competent to operate optional equipment as fitted to the helicopter.
SKILL	To determine that the applicant is able to: (a) use equipment in normal, abnormal and/or emergency procedures.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) system knowledge; (b) normal operating procedures; (c) abnormal or emergency operating procedures.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

3.4.4.3. Pass/fail criteria

The items marked '[M]' (i.e. mandatory) in Appendix 9 to Part-FCL show the minimum practical exercise that must be tested. At their discretion, an examiner may select additional items from the 'practical training' to be tested. If additional items are to be included in the test, they must be briefed, although it is not necessary to be prescriptive.

The skill test is a two-attempt test. The applicant should fly all items at attempt number one prior to retesting any item (attempt number two). There may be some exceptions. When conducting the test/check in a helicopter, it may be inappropriate or impossible to complete the first attempt due to ATC or external influences. This flexibility would not be appropriate or required during simulator testing.

Attempt 1

If the applicant is in the process of completing their first attempt at the test/check and they fail an item that they have previously passed, it is now recorded as a fail at attempt number one. This could mean overwriting a previous examiner's entry on the LST form.

Attempt 2

However, if the applicant is going to fly something previously passed and it is to be assessed, the applicant must be briefed accordingly.

In the case of test, the applicant shall pass Sections 1 to 4 and Section 6. Failure in more than five items at the first attempt will require the applicant to take the entire test again. Any applicant failing not more than five items, shall take the failed items again.

Failure in any item of the retest (attempt number two) including those items that have been passed at a previous attempt, will require the applicant to take the entire test again. All sections of the test shall be completed within 6 months.

If the skill test is terminated for reasons considered adequate by the examiner, only those sections not completed shall be tested in a further flight. If there is a good reason that a test cannot be continued, the applicant may return to line operations providing that the applicant has not failed any item, and the rating has not expired. If any items were failed on the first flight, all items not completed on the first attempt must be tested separately, before any retest is undertaken.

At attempt number one, the examiner may use their discretion to repeat any item(s) of the test once. The option to repeat any item is not a right of the applicant. As general guidance, the examiner should only exercise their discretion to repeat an item when they consider that the applicant has made a minor error and that the error can be corrected by debriefing. This discretion should not be used if further training is required. If retraining is required, it should be done prior to a retest, i.e. a second attempt. Repeats may not be carried forward to another simulator detail/flight, unless the test was originally planned as a two-day event. Repeats must not be passed on to another examiner. Retest item(s) at attempt number two must not be repeated. The applicant should be told what they did wrong prior to repeating the item.

Although technically all items of the test schedule may be repeated once, this is not in the spirit of the repeat discretion. If the applicant's performance is such that several items need to be repeated, the applicant is clearly not up to the required standard, and the discretion to repeat should not be exercised further. Repeats are not recorded on the relevant LST forms, but must be recorded on company paperwork.

If an applicant fails to achieve a satisfactory standard in an item, they will be retested in that item. Such retests must be indicated on company training records and also on the LST form. The examiner may stop the test/check at any stage if it is considered that the applicant's competency requires a complete retest or recheck.

Should the examiner consider that the applicant was not performing satisfactorily due to any external influence or distraction, then the exercise should not be assessed. An example of this may be noisy engineering work outside of a simulator.

If a pilot has presented themselves for the test and has not declared themselves unfit prior to the test, it is reasonable to assume that they would have presented themselves for a flight. It is not acceptable post-test for them to complain that they were unwell.

The format for the test is intended to simulate a practical flight, i.e. commercial air transport flight. Planning and preparation must be completed by the crew using routine planning material in accordance with normal operating procedures. In flight, the applicant must use the normal charts and plates as per the company's operation, e.g. it is not acceptable to use 'home-made' line drawings or photocopied material, which has been customised or highlighted.

Skill tests must not be conducted on a flight for the purpose of commercial air transport or public transport of passengers.

An applicant for the initial issue of an ATPL(H) shall be required to operate as 'pilot flying' (PF) during all stages of the test. In addition, the applicant shall demonstrate the ability to act as 'pilot monitoring' (PM).

3.5. IR(H)

3.5.1. Who may test?

3.5.1.1. An IRE(H) may conduct skill tests for the initial issue or proficiency checks for the revalidation or renewal of the IR(H).

3.5.1.2. A TRE(H) may conduct proficiency checks for the revalidation or renewal of IR(H)s, or for the extension of the IR(H) from single-engine to multi-engine helicopters, provided that the TRE(H) holds a valid IR(H).

3.5.1.3. An SFE(H) may conduct proficiency checks for the revalidation and renewal of IR(H)s, provided that the SFE(H) holds an IRI(H) and has completed 2 000 hours of flight time as a pilot on helicopters and 300 hours of instrument time on helicopters, of which 200 hours shall be as an instructor.

An IRE(H), a TRE(H) or an SFE(H) may test if:

3.5.1.4. the applicant's licence has been issued by the same competent authority as the examiner's; or

3.5.1.5. in the case of an applicant whose competent authority is not the same one that issued the examiner certificate, the examiner shall havereviewed the latest available information containing the relevant national procedures of the applicant's competent authority.

3.5.2. General

An applicant for a skill test/proficiency check shall have received instruction on the same class or type of helicopter to be used in the test/check.

3.5.3. Test/check conduct

The test/check is intended to simulate a practical flight. The route to be flown shall be chosen by the examiner. An essential element is the ability of the applicant to plan and conduct the flight from routine briefing material. The applicant shall undertake the flight planning and shall ensure that all equipment and documentation for the execution of the flight are on board. The duration of the flight shall be at least 1 hour.

Should the applicant choose to terminate a skill test/proficiency check for reasons considered inadequate by the examiner, the applicant shall retake the entire skill test/proficiency check. If the test/check is terminated for reasons considered adequate by the examiner, only those sections not completed shall be tested/checked in a further flight.

At the discretion of the examiner, any manoeuvre or procedure of the test/check may be repeated once by the applicant. The examiner may stop the test/check at any stage if it is considered that the applicant's demonstration of flying skills requires a complete retest/recheck.

For single-pilot helicopters, the applicant shall fly the helicopter from a position where the PIC functions can be performed and to carry out the test as if there was no other crew member present. The examiner shall take no part in the operation of the helicopter, except when intervention is necessary in the interest of safety or to avoid unacceptable delay to other traffic.

Decision heights/altitude (DH/A), minimum descent heights/altitudes (MDH/A), and missed approach point shall be determined by the applicant and agreed upon with the examiner.

An applicant for an IR shall indicate to the examiner the checks and duties carried out, including the identification of radio facilities. Checks shall be completed in accordance with the authorised checklist for the helicopter on which the test is being taken. During pre-flight preparation for the test, the applicant is required to determine power settings and speeds. Performance data for take-off, approach, and landing shall be calculated by the applicant in compliance with the Flight manual or other appropriate document for the helicopter used.

3.5.4. Test tolerances

3.5.4.1. The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the helicopter used.

(1) Height: (i) generally: ± 100 feet
(ii) starting a go-around at DH/DA: + 50 feet/– 0 feet
(iii) MDH/MDA: + 50 feet/– 0 feet

(2) Tracking:	(i) on radio aids: ± 5 degrees (ii) on precision approach: half-scale deflection, azimuth, and glide path
(4) Heading:	(i) all engines operating: ± 5 degrees (ii) with simulated engine failure: ± 10 degrees
(5) Speed:	(i) all engines operating: ± 5 knots (ii) with simulated engine failure: + 10 knots/– 5 knots

3.5.5. The skill test

3.5.5.1. Expanded guidance

Applicants for the skill test for the issue of the helicopter instrument rating and shall take all sections.

The starred items (*) shall be flown in actual or simulated IMC, only by applicants wishing to renew or revalidate an IR(H), or extend the privileges of that rating to another type.

Where the letter '[M]' appears in the skill test or proficiency check title, it indicates a mandatory exercise.

Using a reference system of five test sections, the table below describes the required competency standards for every item of test or check listed in Part-FCL.

The table is separated into four rows as follows:

PHASE OF TEST OR CHECK	
Title of assessed item taken from the Part-FCL schedule	
OBJECTIVE	This cell describes the applicant's proficiency to be assessed by the examiner.
SKILL	This cell describes the competency elements that the applicant is required to demonstrate: — manual helicopter control; — effective flight path management through proper use of the flight management system guidance and automation; — application of procedures.
KNOWLEDGE	This cell describes the knowledge required to meet the objectives.
ATTITUDE	This cell describes the competency elements encapsulated in airmanship, CRM, and threat and error management such as: — situation awareness; — effective communication; — leadership and teamwork; — effective workload management; — effective problem-solving and decision-making.
GENERAL	
In most phases of the flight there are competencies that apply to a group of manoeuvres. In order to avoid repetition, the common competencies are grouped under the 'General' item heading. Examiners must refer to both the 'General' heading criteria and to the criteria under the specific item being assessed, e.g. 'Turns — General', plus 'Steep turns' as the specific item.	

Note: It is sometimes possible to place a competence in either of the two rows because physical skills, knowledge, etc., cannot always be clearly separated; this is not critical for assessments. The intention is to assist the examiner in identifying what competencies are required for satisfactory performance of a test item, and to assist them in identifying why an applicant may have failed to achieve a pass in an item.

3.5.5.2. Detailed testing/checking standards — IR(H)

The test sections are the following:

SECTION 1: DEPARTURE

SECTION 2: GENERAL HANDLING

SECTION 3: EN ROUTE IFR PROCEDURES

SECTION 4: PRECISION APPROACH

SECTION 5: NON-PRECISION APPROACH

SECTION 6: ABNORMAL AND EMERGENCY PROCEDURES

SECTION 1: DEPARTURE	
Use of checklist, airmanship, control of helicopter by reference to instruments, anti-icing/de-icing procedures, etc., apply to all sections	
(a) Use of the Flight manual or other appropriate document, especially helicopter performance calculation, and mass and balance	
OBJECTIVE	To determine that the applicant demonstrates knowledge of the relevant requirements and limitations of flight preparation and operation.
SKILL	To determine that the applicant is able to: (a) complete the flight-planning process including: — mass-and-balance schedule; — take-off and landing performance criteria applicable to airfield and weather conditions; — fuel plan.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) mass-and-balance limitations and computation of centre of gravity; (b) flight performance with reference to relevant sections of the POH or RFM; (c) the adverse effects of exceeding mass-and-balance and performance limitations.
ATTITUDE	Situation awareness: — in-flight-planning considerations. Effective workload management: — allocates appropriate time to complete pre-flight activities. Effective communication: — with other agencies including ATC, MET, where appropriate. Effective problem-solving and decision-making: — by making a competent 'GO/NO GO' decision.

(b) Use of Air Traffic Services document, weather document	
OBJECTIVE	To determine that the applicant demonstrates knowledge of how to obtain the appropriate information as part of the flight-planning process.
SKILL	To determine that the applicant is able to: (a) interpret correctly NOTAM information; (b) interpret correctly weather information for departure and destination aerodromes; (c) select the appropriate navigation chart(s), and departure and approach plates.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) NOTAM information; (b) weather briefing material including METAR, TAF and Area Forecast, synoptic chart, and wind charts; (c) navigation charts including departure, en route, and approach plates.
ATTITUDE	Situation awareness: — assesses environmental conditions. Effective workload management: — prioritises planning tasks to ensure timely completion; — submits flight-planning documentation timely for flight; Effective communication: — with ATC, MET, and other relevant agencies. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — makes a competent 'GO/NO GO' decision.

(c) Preparation of ATC flight plan, IFR flight plan/log	
OBJECTIVE	To determine that the applicant is able to prepare an ATC IFR flight plan for the route, including any off-airway sectors, and prepare a full navigation and RTF flight log.
SKILL	To determine that the applicant is able to: (a) complete an appropriate flight navigation log; (b) complete the required ATC flight plan(s); (c) determine that the helicopter is correctly fuelled, loaded, and legal for the flight; (d) confirm helicopter performance criteria and limitations applicable to airfield and weather conditions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) regulatory requirements relating to IFR flights in IMC; (b) source of RAIM prediction information.
ATTITUDE	Situation awareness: — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately; — interacts effectively with all relevant agencies. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(d) Pre-flight inspection	
OBJECTIVE	To determine that the applicant is able to conduct a full initial pre-flight inspection in accordance with the approved checklist, assuming the 'first flight of the day' and considering 'icing conditions'.
SKILL	To determine that the applicant is able to: (a) perform all elements of the helicopter pre-flight inspection as detailed and applicable to the actual or simulated weather conditions; (b) confirm that the helicopter is in a serviceable and safe condition for flight; (c) check and complete all necessary documentation; (d) take appropriate action with respect to any identified unsatisfactory condition; (e) confirm suitability of RNAV database.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures for pre-flight; (b) approved de-icing procedures.
ATTITUDE	Situation awareness: — assesses environmental conditions; — is aware of the immediate ground environment around the helicopter. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately; — interacts effectively with all relevant agencies. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(e) Weather minima	
OBJECTIVE	To determine that the applicant is able to factor weather conditions appropriately into the flight-planning process in relation to weather minima for departure, en route, and approach phases of the flight.
SKILL	To determine that the applicant is able to: (a) confirm acceptability of weather affecting the departure, route, destination, and diversion. (b) interpret promulgated weather information.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the determination of the expected instrument departure/approach minimum heights/altitudes, and RVR/visibilities; (b) air mass and local weather effects; (c) METAR and TAF decoding.

ATTITUDE	Situation awareness: — is aware of weather conditions along the entire route of flight, including alternate aerodromes. Effective workload management: — obtains weather information at appropriate time for the flight-planning process. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately; — interacts effectively with all relevant agencies. Effective problem-solving and decision-making: — makes a competent 'GO/NO GO' decision; — identifies possible threats and takes mitigatory action.

(f) Taxi/air taxi in compliance with ATC instructions or instructions of instructor	
Note: The applicant shall not be asked to demonstrate their competency to taxi, either on ground or in the air, without adequate external visual reference. If the applicant has external visual references denied by use of screens, IFR hood or goggles, the taxi manoeuvre shall be conducted by the examiner.	
OBJECTIVE	To determine that the applicant completes all the recommended taxiing checks and procedures relating to the taxi manoeuvre.
SKILL	To determine that the applicant is able to: (a) complete passenger briefing; (b) demonstrate instrument checks in turn during taxi; (c) comply with ATC clearance or instructions; (d) control the helicopter's ground/flight path.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) aerodrome markings and indicators, including marshalling instructions and signals; (b) taxi limitations including ground speed; (c) low-visibility procedures.

ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — is aware of conflicting traffic movements. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — stops helicopter when the pilot has doubts about the position.

(g) Pre-take-off briefing, procedures, and checks	
OBJECTIVE	To determine that the applicant demonstrates the knowledge required to brief and execute a take-off leading to an instrument departure.
SKILL	To determine that the applicant is able to: (a) complete all recommended taxi checks and procedures; (b) comply with airport markings and signals; (c) complete all departure checks and drills, including anti-icing checks as required; (d) obtain ATC clearance for departure; (e) complete passenger and crew briefing.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) departure performance criteria, including wind limitations and icing clearance; (b) anticipated departure profile; (c) normal operating procedures.
ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — divides attention appropriately inside and outside the cockpit. Effective communication: — ensures that correct passenger and crew briefings are made; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(h) Transition to instrument flight	
Note: The examiner shall conduct the take-off in accordance with the performance calculations using the correct techniques. Once climb is established, the examiner shall hand over control to the applicant who shall then complete a smooth transition to instrument flight, and the post-take-off checks and drills.	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter and establish a stabilised climb in accordance with departure clearance.
SKILL	To determine that the applicant is able to: (a) take over control of the helicopter at agreed point in flight using pre-briefed 'handover' protocol; (b) establish the climb, complete a smooth transition to instrument flight, and complete post-take-off checks and drills; (c) complete the Standard Instrument Departure (SID) procedure or follow the ATC departure instructions; (d) maintain helicopter control, speed, heading, level, and balance; (e) apply appropriate drift corrections to maintain published departure track or as instructed by ATC; (f) complete all necessary climb checks including altimeter-setting procedures and ice precautions; (g) use the trim system, as appropriate; (h) use the autopilot and Flight Director functions as allowed by the examiner; (i) demonstrate instrument-scanning technique.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal procedures; (b) the relationship between climb performance parameters, pitch attitude and speed, power setting and ROC.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter's position in relation to the desired flight path; Effective workload management: — arranges cockpit reference material to be available at the appropriate time. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors and takes timely and appropriate corrective action.

(i) Instrument departure procedures

OBJECTIVE	To determine that the applicant is able to complete a Standard Instrument Departure (SID) procedure or follow ATC departure instructions during the en route phase.
SKILL	To determine that the applicant is able to: (a) maintain directional control and apply drift corrections within the acceptable limits of speed, heading, height and track, radials, bearings, and courses (QDM/QDR); (b) identify any navigation aids to be used; (c) comply with any noise, routing or departure procedures and ATC clearances; (d) complete all necessary climb checks including altimeter-setting procedures and ice precautions; (e) use the trim system, as appropriate; (f) use the autopilot and Flight Director functions as allowed by the examiner; (g) demonstrate instrument-scanning technique; (h) complete normal operating procedures.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures; (b) icing conditions leading to airframe and rotor icing; (c) the limitations on the use of ground-based navigations aids; (d) the limitations on the use of GNSS-derived navigational information; (e) altimeter-setting procedures; (f) regulatory requirements associated with the airspace used.
ATTITUDE	Situation awareness: — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids; — demonstrates terrain awareness; — is aware of conflicting traffic movements. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and changes in environmental conditions and takes mitigatory action; — recognises performance errors in relation to the desired flight path, and takes timely and appropriate corrective action.

SECTION 2: GENERAL HANDLING	
(a) Control of the helicopter by reference solely to instruments, including:	
(b) Climbing and descending turns with sustained Rate-1 turn	
OBJECTIVE	To determine that the applicant is able to complete a coordinated climb/descent and turn at Rate 1 using the recommended climb speed or descent speed, and nominated rates of climb and descent.
SKILL	To determine that the applicant is able to: (a) establish climb/descent and Rate-1 turns onto nominated height and headings; (b) demonstrate coordinated control of the helicopter's altitude, angle of bank, and heading using instrument-scanning techniques; (c) use the trim system, where appropriate; (d) maintain balance throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed–bank angle relationship for Rate-1 turns; (b) recommended climb/descent speeds and associated power settings.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(c) Recoveries from unusual attitudes, including sustained 30-degree bank turns and steep descending turns	
OBJECTIVE	To determine that the applicant is able to recover from unusual attitudes using coordinated control techniques and minimising height loss throughout the manoeuvre.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control inputs to recover from unusual attitude to pre-agreed recovery attitude; (b) establish safe airspeed in a 'wings level' attitude, in balance, on an appropriate heading and recovery to planned altitude or minimum safe altitude, where applicable; (c) use instrument-scanning technique; (d) use the trim system, where appropriate; (e) control RRPM throughout.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) speed limitations; (b) angle-of-bank limitations; (c) engine/power limitations; (d) RRPM limitations; (e) awareness of low-speed performance hazards such as entry in vortex ring state; (f) awareness of high-speed performance hazards such as retreating blade stall.
ATTITUDE	Situation awareness: — recognises the existence of unusual attitude; — demonstrates orientation throughout the manoeuvre; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

SECTION 3: EN ROUTE IFR PROCEDURES	
(a) Tracking, including interception, e.g. NDB, VOR, RNAV	
OBJECTIVE	To determine that the applicant is able to demonstrate track to and from a facility using the CDI and/or RMI needles during the en route phase of the flight.
SKILL	To determine that the applicant is able to: (a) intercept the required radial at the point appropriate to the route or as instructed by the examiner; (b) track required radial to/from NDB/VOR or GNSS-derived position (BRNAV); (c) maintain height, speed and/or power as directed by the procedure, or as determined in briefing; (d) use the trim system, as appropriate; (e) use the autoflight system, as agreed with the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) Morse code; (b) auto-ident functionality, as appropriate; (c) RTF phraseology; (d) the limitations of ground-based navigation aids; (e) the limitations of GNSS-derived navigation references.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — recognises errors in relation to the desired flight path, and takes timely and appropriate corrective action.

(b) Use of radio aids	
OBJECTIVE	To determine that the applicant is able to use radio aids appropriately to aid flight navigation.

SKILL	To determine that the applicant is able to: (a) identify navigation aids prior to use; (b) make correct use of radio aids with regard to promulgated range, identification, and interpretation; (c) check NOTAMs with respect to navigation aid availability; (d) correctly program RNAV equipment for the route in use; (e) confirm RAIM availability.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) Morse code; (b) auto-ident functionality, as appropriate; (c) RTF phraseology; (d) the limitations of ground-based navigation aids; (e) the limitations of GNSS-derived navigation references; (f) sources of RAIM information.
ATTITUDE	Situation awareness: — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — arranges cockpit reference material to be available at the appropriate time. Effective problem-solving and decision-making: — seeks alternative navigation aid reference if unservicability of desired aid is recognised.

(c) Level flight, control of heading, attitude and airspeed, power setting	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in level flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) demonstrate coordinated control of the helicopter's altitude, speed, and heading using instrument-scanning techniques; (b) use the trim system, where appropriate; (c) maintain directional control and balance throughout; (d) complete all necessary checks and drills throughout.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) manual flying control techniques; (b) flying control techniques using autopilot functions as allowed by the the examiner.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM. Effective problem-solving and decision-making: — recognises errors and takes timely and appropriate corrective action.

(d) Altimeter settings	
OBJECTIVE	To determine that the applicant is able to use altimeters correctly throughout the flight.
SKILL	To determine that the applicant is able to: (a) make correct altimeter settings appropriate to the phase of flight; (b) cross-check altimeters (where appropriate); (c) demonstrate awareness of the en route minimum safe altitudes; (d) use radio altimeter bug settings.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) regulatory procedures for altimeter-setting; (b) the effects of low temperatures on altimeter indications and corrective adjustment required; (c) the limitations and errors associated with barometric and radio altimeters.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the position in relation to external references and altimeter-setting requirements; Leadership and teamwork: — ensures that all cockpit altimeters are set and cross-checked when required. Effective problem-solving and decision-making: — recognises when unacceptable errors occur in altimeter systems and takes appropriate mitigatory action.

(e) Timing and revision of ETAs	
OBJECTIVE	To determine that the applicant is able to accurately calculate ETAs and update them as necessary.

SKILL	To determine that the applicant is able to: (a) reach destinations or turning points within ± 3 min of ETA; (b) update ETAs whenever required; (c) amend fuel calculations accordingly.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the understanding of ETA-calculation methodology and the relationship between ground speed, distance, and time.
ATTITUDE	Effective workload management: — prioritises flying tasks and navigation tasks to allow for regular verification and update of ETAs. Effective communication: — informs ATC of ETAs and of subsequent revisions in a timely manner.

(f) Monitoring of flight progress, flight log, fuel usage, systems management	
OBJECTIVE	To determine that the applicant is able to maintain good cockpit management, monitor flight progress, and keep a suitable record of the flight.
SKILL	To determine that the applicant is able to: (a) navigate by means of calculated headings, ground speed, and time; (b) make appropriate heading corrections to maintain track; (c) configure the engine for cruise/endurance performance in accordance with the Flight manual or other appropriate document guidance; (d) monitor fuel consumption for range or endurance, making adjustments as appropriate; (e) regularly check for carburettor icing, if appropriate.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) the use of all elements of the flight log; (c) flight-planning methodology including relationship between wind velocity, IAS, ground speed, heading, and track.

ATTITUDE	Situation awareness: — maintains adequate lookout throughout; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — divides attention appropriately inside and outside the cockpit; — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks and normal operating procedures to ensure timely completion. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

(g) Ice protection procedures, simulated if necessary and if applicable	
OBJECTIVE	To determine that the applicant is able to operate safely within the approved icing limitations of the helicopter.
SKILL	To determine that the applicant is able to: (a) regularly monitor OAT; (b) assess ice accretion on the aircraft; (c) use anti-icing and de-icing systems and procedures, as required; (d) demonstrate flight path management for icing conditions outside the approved icing clearance.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the effect of ice accretion on the power required; (b) weather reports, forecasts, and other information relating to icing conditions; (c) anti-icing procedures; (d) the limitations relating to flight in icing conditions.
ATTITUDE	Situation awareness: — is aware of changing environmental conditions which may lead to the formation of ice on the helicopter; — is aware when level of ice accretion exceeds the helicopter's approved limitations for flight in icing conditions. Effective problem-solving and decision-making: — seeks rerouting or level change in a timely manner to avoid unacceptable icing conditions; — deals appropriately with unexpected encounters with icing conditions, or with anti-icing or de-icing system malfunctions.

(h) ATC liaison — Compliance, R/T procedures	
OBJECTIVE	To determine that, in the IFR environment, the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.
SKILL	To determine that the applicant is able to: (a) set altimeters as appropriate; (b) maintain two-way R/T communication; (c) obtain ATC clearances and the appropriate level of service; (d) comply with ATC clearances and instructions; (e) comply with published departure/arrival procedure or clearance; (f) maintain adequate lookout and collision-avoidance awareness.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) communications failure procedures; (c) transponder-setting procedures.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — establishes communication with ATC on the correct frequencies and at the appropriate times; — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Effective workload management: — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making: — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.

SECTION 4: PRECISION APPROACH	
(*) Items to be performed in Section 4 or Section 5	
(a) Setting and checking of navigational aids, identification of facilities	
OBJECTIVE	To determine that the applicant is able to configure the cockpit navigation systems and displays for a precision approach.
SKILL	To determine that the applicant is able to: (a) select, tune, and identify relevant navigation aid(s); (b) use the appropriate navigation aids with regard to promulgated range, identification, and interpretation; (c) appropriately set up navigation display(s).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) navigation system controls and displays; (b) Morse code or auto-ident functionality; (c) the interpretation of approach charts.
ATTITUDE	Situation awareness: — monitors the operational status of the ground and helicopter navigation equipment used for the approach; — demonstrates orientation throughout the manoeuvre. Effective workload management: — completes all required tasks at an appropriate time. Leadership and teamwork: — coordinates actions with other flight crew members efficiently. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(b) Arrival procedures, altimeter checks	
OBJECTIVE	To determine that the applicant is able to set the altimeter(s) correctly during a precision approach.
SKILL	To determine that the applicant is able to: (a) demonstrate descent planning from the en route phase, as well as consideration and awareness of MSA; (b) complete the published arrival procedure or as instructed by ATC; (c) correctly use altimeter settings, ATC liaison, and RTF procedures; (d) use the correct RTF procedures and phraseology.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) regulatory requirements for altimeter-setting procedures; (b) the limitations of altimeter systems; (c) the effects of low temperature on altimeter readings; (d) the requirements for compensating DA/DH values in extreme low-temperature conditions.
ATTITUDE	Situation awareness: — is aware of altitude and height above terrain throughout the procedure. Effective communication: — obtains appropriate ATC clearance including altimeter settings, reads back correctly, and when necessary requests clarification. Leadership and teamwork: — ensures altimeter settings are set and checked on all altimeters as required. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(c) Approach and landing briefing, including descent/approach/landing checks	
OBJECTIVE	To determine that the applicant has adequately planned for the approach and landing phases, and has configured the helicopter's systems appropriately.
SKILL	To determine that the applicant is able to: (a) give approach briefing, including weather and significant aspects of given approach; (b) confirm instrument approach procedure minima, final approach track, planned approach speed(s), and missed approach procedure; (c) complete all procedures, checks, and drills in preparation for landing; (d) determine final approach speed commensurate with ATC clearance, weather, and operating conditions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) approach profile, including minima and missed approach procedure; (b) reported weather conditions; (c) NOTAMs relating to arrival aerodrome and associated procedures.

ATTITUDE	Situation awareness: — is aware of the helicopter's configuration at all times. Effective workload management: — completes briefing and checks at an appropriate time to minimise workload and distraction and maximise understanding. Effective communication: — ensures that correct passenger and crew briefings are made. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(*) (d) Holding procedure	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of and proficiency in holding procedures for standard and non-standard, published and non-published IFR holding patterns.
SKILL	To determine that the applicant is able to: (a) complete the appropriate entry procedure to hold in accordance with SOPs or ATC; (b) appropriately correct speed to manage transit of holding fix at EAT, if required; (c) recognise arrival at the clearance limit or holding fix; (d) comply with ATC reporting requirements; (e) use correct timing criteria where required by the procedure or ATC; (f) use wind-drift correction techniques accurately to maintain the appropriate joining and holding pattern, and to establish and maintain the correct tracks and bearings; (g) maintain altitude as required by the procedure or by ATC.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hold-entry procedures; (b) holding procedures; (c) the interpretation of aeronautical maps and charts; (d) holding endurance including fuel on board, fuel flow whilst holding, and fuel required to alternate.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — recognises navigation errors or system malfunctions, and takes timely and appropriate corrective action.

(e) Compliance with published approach procedure	
OBJECTIVE	To determine that the applicant is able to control the helicopter and commence an approach in the correct configuration.
SKILL	To determine that the applicant is able to: (a) prior to the beginning of the final approach segment, maintain the desired altitude, heading, and airspeed, and accurately track radials, courses, and bearings in accordance with the published approach procedure or as directed by ATC; (b) establish an appropriate heading to intercept and follow localiser; (c) establish a predetermined ROD when glide slope is intercepted in order to follow glide slope; (d) use the trim system, as appropriate; (e) use the autopilot functionality as allowed by the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) communications, navigation, and autoflight systems.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

(f) Approach timing	
OBJECTIVE	To determine that the applicant is able to monitor or control the approach procedure using timing as necessary.
SKILL	To determine that the applicant is able to: (a) where DME or other information from VOR/NDB or marker beacons is not available, make appropriate adjustments to the procedure timing to allow for the effects of known wind.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind-drift correction techniques.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions.

(g) Altitude, speed, heading control (stabilised approach)	
OBJECTIVE	To determine that the applicant is able to establish a stabilised approach, in trim for the configuration and speed, using appropriate techniques for attitude, heading, and power control.
SKILL	To determine that the applicant is able to: (a) maintain localiser and glide slope indications within the prescribed limits; (b) use the trim system, as appropriate; (c) use the autopilot functionality as allowed by the examiner; (d) maintain a stabilised approach path from FAF to approach minima, arriving at DA/DH in such a position that a landing or go-around can be accomplished safely; (e) prepare back-up communication and navigation frequencies for continued approach in the event of radio/navigation aid/display/equipment failure; (f) obtain ATC clearances as required and compliance with all ATC instructions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) stabilised-approach criteria; (b) the interpretation of aeronautical maps and charts; (c) communications, navigation, and autoflight systems; (d) the actions to be taken in the event of radio aid/communications/display/equipment failure.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

(*) (h) Go-around action	
OBJECTIVE	To determine that the applicant is able to perform the go-around procedure with all engines operating* after a precision approach on reaching DA/DH.
SKILL	To determine that the applicant is able to demonstrate manual helicopter control, effective flight path management, and application of procedures by: (a) initiating the go-around procedure promptly by the timely application of power, establishing the proper climb attitude, and reconfiguring the helicopter in accordance with the approved procedures; (b) maintaining the desired altitudes, airspeed, and heading, and accurately tracking courses, radials, and bearings; (c) complying with the appropriate missed approach procedure or ATC clearance; (d) using RNAV guidance and automation where applicable; (e) accomplishing the appropriate checklist items in a timely manner in accordance with the approved procedures; (f) interpreting correctly the ATC clearance received and, when necessary, requesting clarification, verification, or change; (g) requesting clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as otherwise directed by the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) flight procedures; (b) all-weather operations; (c) stabilised-approach criteria; (d) visual references; (e) go-around all-engines pattern; (f) helicopter limitations.
ATTITUDE	Situation awareness — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(*) (i) Missed approach procedure/landing	
OBJECTIVE	To determine that the applicant is able to follow the published missed approach procedure or transition to visual references appropriately for a visual landing in a safe and controlled manner.
SKILL	To determine that the applicant is able to: (a) achieve a missed approach by: (1) initiating a 'go-around' manoeuvre before descending below DA/H if required visual references are not obtained; (2) ensuring that helicopter maintains a safe climb-out path and makes appropriate configuration changes to ensure that the performance requirements are achieved; (3) complying with published missed approach procedure or as directed by ATC. (b) achieve a visual landing by: (1) acquiring required visual references for landing; (2) making smooth transition from instrument to visual flight; (3) maintaining a stable, trimmed flight path to the touchdown point.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures for all-weather operations; (b) approach minima; (c) the interpretation of aeronautical approach charts.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(j) ATC liaison — Compliance, R/T procedures	
OBJECTIVE	To determine that, in the approach phase, the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.
SKILL	To determine that the applicant is able to: (a) maintain two-way R/T communication; (b) obtain ATC clearances and the appropriate level of service; (c) comply with ATC clearances and instructions; (d) comply with published departure/arrival procedure or clearance; (e) maintain adequate lookout and collision-avoidance awareness.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) communications failure procedures; (c) transponder-setting procedures.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — establishes communication with ATC on the correct frequencies and at the appropriate times; — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Effective workload management: — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making: — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.

SECTION 5: NON-PRECISION APPROACH	
(*) Items to be performed in Section 4 or Section 5	
(a) Setting and checking of navigational aids, identification of facilities	
OBJECTIVE	To determine that the applicant is able to configure the cockpit navigation systems and displays for a non-precision approach.
SKILL	To determine that the applicant is able to: (a) select, tune, and identify relevant navigation aid(s); (b) use the appropriate navigation aids with regard to promulgated range, identification, and interpretation; (c) appropriately set up navigation display(s).
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) navigation system controls and displays; (b) Morse code or auto-ident functionality; (c) the interpretation of approach charts.
ATTITUDE	Situation awareness: — monitors the operational status of the ground and helicopter navigation equipment used for the approach; — demonstrates orientation throughout the manoeuvre. Effective workload management: — completes all required tasks at an appropriate time. Leadership and teamwork: — coordinates actions with other flight crew members efficiently. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(b) Arrival procedures, altimeter checks	
OBJECTIVE	To determine that the applicant is able to set the altimeter(s) correctly during a non-precision approach.
SKILL	To determine that the applicant is able to: (a) demonstrate descent planning from the en route phase, as well as consideration and awareness of MSA; (b) complete the published arrival procedure or as instructed by ATC; (c) correctly use altimeter settings, ATC liaison and RTF procedures; (d) use the correct RTF procedures and phraseology.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) regulatory or Operations Manual requirements for altimeter-setting procedures; (b) the limitations of altimeter systems; (c) the effects of low temperature on altimeter readings; (d) the requirements for compensating MDA/MDH values in extreme low-temperature conditions.
ATTITUDE	Situation awareness: — is aware of altitude and height above terrain throughout procedure. Effective communication: — obtains appropriate ATC clearance including altimeter settings, reads back correctly and when necessary, and requests clarification. Leadership and teamwork: — ensures altimeter settings are set and checked on all altimeters as required. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(c) Approach and landing briefing, including descent/approach/landing checks	
OBJECTIVE	To determine that the applicant has adequately planned for the approach and landing phases, and has configured the helicopter and its systems appropriately.
SKILL	To determine that the applicant is able to: (a) give approach briefing, including weather and significant aspects of given approach; (b) confirm instrument approach procedure minima, final approach track, planned approach speed(s), and missed approach procedure; (c) complete all procedures, checks, and drills in preparation for landing; (d) determine final approach speed commensurate with ATC clearance, weather, and operating conditions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the approach profile, including minima and missed approach procedure; (b) reported weather conditions; (c) NOTAMs relating to arrival aerodrome and associated procedures.
ATTITUDE	Situation awareness: — is aware of the helicopter's configuration at all times. Effective workload management: — completes briefing and checks at an appropriate time to minimise workload and distraction, and maximise understanding. Effective communication: — ensures that correct passenger and crew briefings are made. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action.

(*) (d) Holding procedures	
OBJECTIVE	To determine that the applicant demonstrates adequate knowledge of and proficiency in holding procedures for standard and non-standard, published and non-published IFR holding patterns.

SKILL	To determine that the applicant is able to: (a) complete the appropriate entry procedure to hold in accordance with SOPs or ATC; (b) appropriately correct speed to manage transit of holding fix at EAT, if required; (c) recognise arrival at the clearance limit or holding fix; (d) comply with ATC reporting requirements; (e) use the correct timing criteria where required by the procedure or ATC; (f) use wind-drift correction techniques accurately to maintain the appropriate joining and holding pattern, and to establish and maintain the correct tracks and bearings; (g) maintain altitude as required by the procedure or by ATC.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) hold-entry procedures; (b) holding procedures; (c) the interpretation of aeronautical maps and charts; (d) holding endurance including fuel on board, fuel flow whilst holding, and fuel required to alternate.
ATTITUDE	Situation swareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — recognises navigation errors or system malfunctions, and takes timely and appropriate corrective action.

(e) Compliance with published approach procedure	
OBJECTIVE	To determine that the applicant is able to control the helicopter and commence an approach in the correct configuration.

SKILL	To determine that the applicant is able to: (a) prior to beginning the final approach segment, maintain the desired altitude, heading, and airspeed, and accurately track radials, courses, and bearings in accordance with the published approach procedure or as directed by ATC; (b) establish an appropriate heading to intercept and follow localiser; (c) establish a predetermined ROD when glide slope is intercepted in order to follow glide slope; (d) use the trim system, as appropriate; (e) use the autopilot functionality as allowed by the examiner.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the interpretation of aeronautical maps and charts; (b) communications, navigation, and autoflight systems.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

(f) Approach timing	
OBJECTIVE	To determine that the applicant is able to monitor or control the approach procedure using timing as necessary.
SKILL	To determine that the applicant is able to: (a) where DME or other information from VOR/NDB or marker beacons is not available, appropriately adjust the procedure timing to allow for the effects of known wind.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) wind-drift correction techniques.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — assesses environmental conditions.

(g) Altitude, speed, heading control (stabilised approach)	
OBJECTIVE	To determine that the applicant is able to establish a stabilised approach, in trim for the configuration and speed, using the appropriate techniques for attitude, heading, and power control.
SKILL	To determine that the applicant is able to: (a) maintain localiser and glide slope indications within the prescribed limits; (b) use the trim system, as appropriate; (c) use the autopilot functionality as allowed by the examiner; (d) maintain a stabilised approach path from FAF to approach minima, arriving at DA/DH in such a position that a landing or go-around can be accomplished safely; (e) prepare back-up communication and navigation frequencies for continued approach in the event of radio/navigation aid/display/equipment failure; (f) obtain ATC clearances as required and in compliance with all ATC instructions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) stabilised-approach criteria; (b) the interpretation of aeronautical maps and charts; (c) communications, navigation, and autoflight systems; (d) the actions to be taken in the event of radio aid/communications/display/equipment failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

(*) (h) Go-around action	
OBJECTIVE	To determine that the applicant is able to perform the go-around procedure with all engines operating* after a non-precision approach on reaching MDA/MDH.
SKILL	To determine that the applicant demonstrates manual helicopter control, effective flight path management, and application of procedures by: (a) initiating the go-around procedure promptly by the timely application of power, establishing the proper climb attitude, and reconfiguring the helicopter in accordance with the approved procedures; (b) maintaining the desired altitudes, airspeed, and heading, and accurately tracking courses, radials, and bearings; (c) complying with the appropriate missed approach procedure or ATC clearance; (d) using RNAV guidance and automation where applicable; (e) accomplishing the appropriate checklist items in a timely manner in accordance with the approved procedures; (f) interpreting correctly the ATC clearance received and, when necessary, requesting clarification, verification, or change; (g) requesting clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as otherwise directed by the examiner.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) flight procedures; (b) all-weather operations; (c) stabilised-approach criteria; (d) visual references; (e) go-around all-engines pattern; (f) helicopter limitations.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(*) (i) Missed approach procedure/landing	
OBJECTIVE	To determine that the applicant is able to follow the published missed approach procedure or transition to visual references appropriately for a visual landing in a safe and controlled manner.
SKILL	To determine that the applicant is able to: (a) achieve a missed approach by: (1) initiating a 'go-around' manoeuvre before descending below DA/H if required visual references are not obtained; (2) ensuring that the helicopter maintains a safe climb-out path and makes appropriate configuration changes to ensure that performance requirements are achieved; (3) complying with the published missed approach procedure or as otherwise directed by ATC. (b) achieve a visual landing by: (1) acquiring the required visual references for landing; (2) making smooth transition from instrument to visual flight; (3) maintaining a stable, trimmed flight path to the touchdown point.

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) normal operating procedures for all-weather operations; (b) approach minima; (c) the interpretation of aeronautical approach charts.
ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — makes appropriate crew notification when safe to do so; — manages the correct operation of helicopter systems; — manages the airspace environment, limitations, and restrictions (for example: MSA, obstacle clearance); — manages fuel effectively. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action.

(j) ATC liaison — Compliance, R/T procedures	
OBJECTIVE	To determine that, in the approach phase, the applicant is able to: (a) establish communication with ATC where and when appropriate; (b) use the correct and standard RTF phraseology throughout; (c) where appropriate, obtain ATC clearances and the appropriate level of service; (d) where required, comply with ATC clearances and instructions.
SKILL	To determine that the applicant is able to: (a) maintain two-way R/T communication; (b) obtain ATC clearances and the appropriate level of service; (c) comply with ATC clearances and instructions; (d) comply with published departure/arrival procedure or clearance; (e) maintain adequate lookout and collision-avoidance awareness.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) standard RTF phraseology; (b) communications failure procedures; (c) transponder-setting procedures.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective communication: — establishes communication with ATC on the correct frequencies and at the appropriate times; — reads back correctly, in a timely manner, the ATC clearance in the sequence received. Effective workload management: — copies correctly, in a timely manner, the ATC clearance as issued. Effective problem-solving and decision-making: — interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.

SECTION 6: ABNORMAL AND EMERGENCY PROCEDURES	
This Section may be combined with Sections 1 through 5. The test shall relate to control of the helicopter, identification of the failed engine, immediate actions (touch drills), follow-up actions, checks and flying accuracy in the following situations:	
(a) Simulated engine failure after take-off and on/during approach* (at a safe altitude unless carried out in an FFS or FNPT II/III, FTD 2, 3) **(*Multi-engine helicopters only)**	
OBJECTIVE	To determine that the applicant is able to maintain control of the helicopter in the event of a simulated engine failure by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) maintain the desired flight path using the maximum power available; (b) demonstrate RRPM, ROC, and power management; (c) secure the failed engine at an appropriate time; (d) replan flight taking into account OEI performance.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) OEI performance limitations; (b) OEI take-off or landing profiles; (c) minimum safe altitudes for flight plan; (d) abnormal and emergency procedures relating to engine failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — arranges cockpit reference material to be available at the appropriate time; — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — obtains appropriate ATC clearance, reads back correctly and when necessary, and requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight plan as necessary.

(b) Failure of stability-augmentation devices/hydraulic system (if applicable)	
OBJECTIVE	To determine that the applicant is able to control the helicopter following simulated failure of single or multiple channels of the autoflight system and/or failure of a hydraulic system.
SKILL	To determine that the applicant is able to: (a) control the helicopter's flight path; (b) smoothly control inputs compensating for loss of autoflight/hydraulic assistance; (c) analyse emergency or abnormal situation and formulate appropriate plan; (d) execute abnormal or emergency drills; (e) plan and execute further actions to ensure safe recovery of helicopter, passengers, and crew; (f) use the appropriate abnormal or emergency checklist to confirm actions when time permits; (g) transmit the appropriate emergency R/T calls (simulated to the examiner).

KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) autoflight/hydraulic system indications (normal and warning indications); (b) autoflight/hydraulic system controls; (c) autoflight/hydraulic system limitations; (d) abnormal and emergency operating procedures relating to autoflight and hydraulic systems.
ATTITUDE	Situation awareness: — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(c) Limited panel	
OBJECTIVE	To determine that the applicant is able to control the helicopter in terms of speed, altitude, heading, and angle of bank during a simulated failure of attitude or heading indicators.
SKILL	To determine that the applicant is able to: (a) control the helicopter within the normal operating limits; (b) maintain scan of the remaining available instruments, including reference to standby instruments, where appropriate; (c) cross-check indications between individual instruments.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) the relationship between pitch attitude, speed, angle of bank, and rate of turn; (b) primary and secondary effects of control inputs on attitude, altitude, speed, heading, rate of turn, and ROC/ROD.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre. Effective problem-solving and decision-making: — recognises undesired attitudes or departure from desired flight path, and makes timely corrective control inputs.

(d) Autorotation and recovery to a preset altitude	
OBJECTIVE	To determine that the applicant is able to enter, establish, and recover from autorotative flight by sole reference to instruments.
SKILL	To determine that the applicant is able to: (a) entry into autorotation whilst maintaining RRPM within the limits; (b) orientate the helicopter with respect to last known wind direction; (c) adjust and maintain speed for minimum ROD; (d) complete emergency drills during descent; (e) consider engine restart procedures; (f) initiate flare at altitude pre-agreed as exercise 'floor'; (g) apply power to establish AEO climb to regain safe flight path.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) RRPM limits for autorotation; (b) recommended speed/RRPM combinations to maximise performance in autorotation; (c) agreed exercise 'floor'/minimum altitude; (d) emergency operating procedures for simulated failure leading to autorotation.

ATTITUDE	Situation awareness: — demonstrates terrain awareness; — assesses environmental conditions; — is aware of the helicopter's speed/height/power setting/RRPM; — is aware of the helicopter systems' state; — is aware of the helicopter's position in relation to external references (landmarks and navigation aids). Effective workload management: — prioritises flying tasks, normal operating procedures, and emergency operating procedures appropriately. Effective communication: — ensures that correct passenger and crew briefings are made; — informs ATC of situation in a timely manner and requests appropriate priority. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — allocates tasks appropriately. Effective problem-solving and decision-making: — recognises errors or system malfunctions, and takes timely and appropriate corrective action; — replans flight as necessary.

(e) Precision approach manually without Flight Director** **Precision approach manually with Flight Director**** **(**Only one item to be tested)**	
OBJECTIVE	To determine that the applicant is able to fly a precision approach by reference to instruments (with or without Flight Director guidance, as required by the examiner) without the assistance of autoflight systems in at least one control channel.
SKILL	To determine that the applicant is able to: (a) maintain localiser and glide slope indications within the prescribed limits; (b) use the trim system, as appropriate; (c) use the autopilot functionality as allowed by the examiner; (d) maintain a stabilised approach path from FAF to approach minima, arriving at DA/DH in such a position that a landing or go-around can be accomplished safely; (e) prepare back-up communication and navigation frequencies for continued approach in the event of radio/navigation aid/display/equipment failure; (f) obtain ATC clearances as required and comply with all ATC instructions.
KNOWLEDGE	To determine that the applicant demonstrates knowledge related but not limited to: (a) stabilised-approach criteria; (b) the interpretation of aeronautical maps and charts; (c) communications, navigation, and autoflight systems; (d) the actions to be taken in the event of radio aid/communications/display/equipment failure.

ATTITUDE	Situation awareness: — demonstrates orientation throughout the manoeuvre; — demonstrates terrain awareness; — is aware of conflicting traffic movements; — assesses environmental conditions. Effective workload management: — prioritises tasks to ensure timely completion; — arranges cockpit reference material to be available at the appropriate time. Effective communication: — obtains appropriate ATC clearance, reads back correctly and when necessary, requests clarification or change. Leadership and teamwork: — coordinates actions with other flight crew members efficiently; — delegates tasks appropriately. Effective problem-solving and decision-making: — identifies possible threats and takes mitigatory action; — recognises tracking errors or system malfunctions, and takes timely and appropriate corrective action, including initiating a 'go-around' manoeuvre if the approach becomes unstable.

3.5.6. Pass/fail criteria

An applicant shall pass all the relevant sections of the skill test/proficiency check. If any item in a section is failed, that section is failed. Failure in more than one section will require the applicant to take the entire test/check again. An applicant failing only one section shall only repeat the failed section. Failure in any section of the retest, including those sections that have been passed on a previous attempt, will require the applicant to take the entire test again. All relevant sections of the skill test shall be completed within 6 months. Failure to achieve a pass in all relevant sections of the test in two attempts will require further training.

Further training may be required following a failed skill test. There is no limit to the number of skill tests that may be attempted.