

Creating Competency-based Assessment Grade Sheets and a Rubric for Private Pilot Licence Training

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Abstract

Regarding the assessment of pilot performance in research, the current best practice is to use flight instructor ratings. However, having a flight instructor grade the performance of a student pilot during their flight training is not standard practice in Canada, and there is a lack of standardised and detailed assessment rubrics to consider all skill and competency requirements for different flight maneuvers. To address this limitation, this paper presents grade sheets for the 16 exercises assessed during a Private Pilot License flight test in Canada and a rubric to assist in standardising the grading. The developed grade sheets and rubrics are based on Transport Canada and the International Civil Aviation Organisation documents and are intended to be used by flight instructors during flight training in order to track student performance throughout training. In contrast to the single grade assigned to an exercise during a flight test, the grade sheets are designed to assign multiple grades per exercise to provide a more comprehensive and granular view of the performance of the student pilot. These grade sheets have been used in a few studies within the Waterloo Institute for Sustainable Aeronautics. Using this enhanced assessment rubric will help researchers collect instructor ratings of flight performance in a standardised and comprehensive way, and it can also help flight instructors to systematically evaluate students and provide more detailed feedback, as the industry is moving towards competency-based training.

Keywords: standardised pilot training assessment, aviation training standards, flight training devices, competency-based training, pilot competencies

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Introduction

Pilot training methods have stayed mostly unchanged over the past decades. A combination of classroom lectures, inflight demonstration, training in aircraft, and training in flight training devices is often used. Private Pilot License (PPL) and Commercial Pilot License (CPL) training is mostly done in an aircraft, including both dual flight (with an instructor) and solo flight (without an instructor). A limitation of this current training practice is that the assessment of the student pilot's skills and competencies is done by an instructor, however, there is not standardised practice to document these assessments. Therefore, the quality and rigor of the assessment and debriefing feedback are affected by subjective factors and individual differences. In recent years, researchers have explored methods of objective pilot assessment, such as using eye movement measures (Ayala et al., 2024) and computational modelling (Xu et al., 2024). These studies need a way to benchmark pilot performance following the current best practices. In the case of PPL training, it means that a flight instructor should fly with the student pilot, closely observe, and rate the overall performance on a 4-point scale. This single-value rating is very limited because it lacks clear rubrics for different flight maneuvers, and it cannot differentiate various aspects of competency. To address this issue, the goal of the current work is to create a competency-based assessment rubric for PPL training. The resulting rubric and grade sheets can serve as a standard tool for future studies to measure instructor-rated flight performance.

Overview of the Current Private Pilot License – Aeroplane Training in Canada

Standard 421 – Flight Crew Permits, Licenses and Ratings in the Canadian Aviation Regulations (CARs) outlines the requirements needed for the various permits, licenses and ratings to be issued by Canada's civil aviation authority, Transport Canada. The requirements for the PPL – Aeroplane are outlined in Standard 421.26, where they are broken down into age, medical fitness, knowledge, experience and skill. Standard 421.26 also contains a list of credits applicable for individuals possessing other permits or licenses, whether issued by Transport Canada or a Contracting State. The focus of this paper will be the knowledge, experience and skill requirements for the PPL – Aeroplane.

The knowledge requirement for the PPL involves no less than 40 hours of ground school instruction covering a number of subjects that are outlined in CAR Standard 421.26. The individual must also score a minimum of 60% on the Private Pilot License – Aeroplane (PPAER) written examination. The PPAER is broken down into four subject areas and the individual must also score at least 60% in each subject. The four subject areas are 1) Air Law, 2) Navigation, 3) Meteorology and 4) Aeronautics – General Knowledge.

The experience requirement outlined in CAR Standard 421.26 refers to the flight training an individual must complete under the direction or supervision of a pilot who has a Flight Instructor Rating – Aeroplane and states:

(4) Experience

- (a) An applicant shall have completed a minimum of 45 hours private pilot flight training in aeroplanes under the direction and supervision of the holder of a Flight Instructor Rating - Aeroplane. A maximum 5 of the 45 hours may be conducted on an approved aeroplane simulator or flight training device.
(amended 1998/09/01)

(b) The flight training shall include a minimum of:

(i) 17 hours dual instruction flight time, including a minimum of 3 hours cross-country flight time and 5 hours of instrument time of which a maximum of 3 hours may be instrument ground time; and (amended 1998/09/01)

(ii) 12 hours solo flight time, including 5 hours cross-country flight time with a flight of a minimum of 150 nautical miles which shall include 2 full stop landings at points other than the point of departure.

These requirements are also presented in Table 1.

Table 1

Flight Hour Requirements to Obtain a PPL in Canada

Minimum of 45 hours of private pilot flight training ^a
Minimum of 17 hours dual instruction flight time
Minimum of 3 hours cross-country flight time
Minimum of 5 hours of instrument time ^b
Minimum of 12 hours solo flight time
Minimum of 5 hours solo cross-country flight time ^c

^aUp to 5 hours may be completed in a flight training device or an approved aeroplane simulator

^bUp to 3 hours may be instrument ground time (training conducted in a flight training device or an approved aeroplane simulator)

^cMust include one flight of at least 150 nautical miles in length with 2 full stop landings at aerodromes other than the point of departure

The individual's skills are then assessed during a "Flight Test for the Issuance of a Private Pilot License – Aeroplane" and must be successfully completed within the preceding 12 months of the date of application for the PPL. CAR Standard 428, Schedule 3 contains the regulatory information regarding the PPL Flight Test and is broken down into a number of components: 1) Prerequisites for the Flight Test, 2) Aircraft and Equipment Required for the Flight Test, 3) Conduct for the Flight Test, 4) Flight Test Performance, and 5) Content of the Flight Test for the Issuance of a Private Pilot License.

Anyone working toward their PPL in Canada can make use of a number of documents Transport Canada publishes regarding the PPL flight training and the PPL flight test. The Aeroplane Flight Training Manual provides images and text describing all maneuvers and procedures one would practice during flight training. The maneuvers and procedures are assigned exercise numbers (i.e., Exercise 4. – Takeoff), which are then referenced in numerous flight training documents, such as the Flight Test Guide (FTG) – PPL – Aeroplane (A).

The FTG – PPL – A is another resource published by Transport Canada and can be referenced throughout the flight training process. It outlines the techniques, procedures and marking criteria Aviation Inspectors and Pilot Examiners will use during the PPL flight test. It

also describes the 4-point marking scale employed by Transport Canada during the flight test. The document lists the 16 exercise that will be assessed as part of the PPL flight test. In its preamble, the flight test guide states that “flight instructors are expected to use this guide when preparing candidates for flight tests. Candidates should be familiar with this guide and refer to the qualification standards during their training”.

Presently, there is no standard or requirement for flight instructors conducting PPL flight training to assess, even periodically, their student’s performance during the flight training. Flight training is logged in a Transport Canada–approved logbook called a Pilot Training Record (PTR). A PTR is similar to a pilot logbook but includes a section for instructor comments and tables to track what exercises were practiced each flight. The table will be marked with an “F” if the exercise was demonstrated for familiarisation, a “P” if preparatory ground instruction was conducted, a “D” if the exercise was demonstrated and practiced or practiced under supervision (dual flight), an “S” for solo practice of the exercise or an “R” for exercise review. Once the instructor is satisfied with the student’s performance and the minimum flight time requirements are met, the instructor will recommend the student for the PPL flight test.

Developing a Grade Sheet and Rubric for PPL – Aeroplane Training

The grade sheet and rubric that were developed are largely based on the 4-point marking scale and the assessment methodology used by Transport Canada examiners during a PPL flight test, which are described in the FTG – PPL – A. In the FTG – PPL – A, Transport Canada has listed every exercise that will be graded during the flight along with its aim, objective and performance criteria.

The performance criteria are used by the examiners to assign a grade to the student’s performance during the flight test. The examiner will assign one grade per exercise based on the student’s weakest element of the exercise while referencing both the 4-point marking scale and the performance criteria for that exercise. The FTG – PPL – A also lists four flight management competencies that they state can often help explain poor performance during an exercise. These competencies include:

- 1) Problem Solving and Decision Making
- 2) Situational Awareness
- 3) Communication
- 4) Workload Management

These competencies align very closely to a set of competencies found in Appendix 1 of the ICAO Manual of Evidence-based Training (Doc 9995), a document designed to assist Civil Aviation Authorities, airline operators and training organisations with the training and recurrent assessment of pilots. These competencies are:

- 1) Application of Procedures
- 2) Communication
- 3) Aircraft Flight Path Management – Automation
- 4) Aircraft Flight Path Management – Manual
- 5) Leadership and Teamwork
- 6) Problem Solving and Decision Making

- 7) Situation Awareness
- 8) Workload Management

While this ICAO document and competency list focuses more on the training and assessment of pilots flying multi-crew aircraft, there is a keen interest in adopting evidence-based training for private pilot training, and therefore, it was referenced when making the grade sheet and the rubric.

It was decided to utilise the 4-point marking scale used by Transport Canada during the PPL flight test. To assist in determining the grades assigned when using the grade sheet, a rubric was developed based off of the rubric developed by Transport Canada and published in the FTG – PPL – A. Edits were made to the wording and bullet points for each grade were added in order to reflect the eight competencies from the ICAO Doc 9995.

Assigning one grade per exercise, as is the current practice during a PPL flight test, is a reasonable grading approach in a flight test environment where the goal is to determine whether a student performs the exercise to a prescribed standard. When developing the grade sheet, it was determined that assigning multiple grades per exercise would provide a more comprehensive assessment of the student's performance. The approach that was taken was to isolate the list of the performance criteria for each exercise found in the FTG – PPL – A. Once this list was compiled, one or more of the eight competencies from Appendix 1 of the ICAO Doc 9995 were assigned to each performance criterium with the intention of each individual competency being assigned a grade.

After discussion, the four competencies of 'Application of Procedures', 'Communication', 'Aircraft Flight Path Management – Automation' and 'Aircraft Flight Path Management – Manual' were deemed more easily observable. Therefore, for every instance one of those four competencies was assigned to a performance criterium, it was decided a grade would be assessed for each competency. This means that a single performance criterium could have multiple grades. The other four competencies of Leadership and Teamwork, Problem Solving and Decision Making, Situation(al) Awareness and Workload Management are more difficult to observe as part of a single performance criterium; therefore, it was determined that a single grade would be assigned per competency for each exercise. If it was deemed that a certain performance criterium or competency was not relevant, "N/A" rather than a grade can be selected. Included in the grade sheet design is a column to allow the instructors to write comments or justifications for the grades they assign.

The Resulting Grade Sheet and Rubric for PPL – Aeroplane Assessment

There are 16 exercises assessed during a PPL – A flight test. The exercises are:

- a) Aeroplane Familiarisation and Preparation for Flight
- b) Taxiing
- c) Steep Turn
- d) Slow Flight
- e) Stall
- f) Spiral
- g) Slipping
- h) Takeoff
- i) Circuit

- j) Approach and Landing
- k) Precautionary Landing
- l) Forced Landing
- m) Pilot Navigation
- n) Instrument Flying
- o) Emergency Procedures/Malfunctions
- p) Radio Communication

The resulting grade sheets for each exercise can be found in **Appendix A**. Each exercise is numbered based on their corresponding exercise number in the FTG – PPL – A. Some exercises, such as Exercise 12 – Stall, are broken down into sub-exercises. These exercises contain a letter (and sometimes an additional number) along with exercise number to indicate the separate components or configurations, for example Exercise 12A – Stall (power off) and Exercise 12B – Stall (power on). The rubric developed to assist instructors in providing consistent grades can be found in **Appendix B**.

These grade sheets have been used in several studies completed in a flight training device. Some researchers decided to print the grade sheets as they appear in Appendix A and have the instructors physically complete the assessment on the paper copy of the grade sheet. Other researchers have chosen to digitise the grade sheets using an online survey platform and have the instructors complete the assessment on a tablet.

There is currently an ongoing study aimed at soliciting feedback from instructors who have participated in sessions where the grade sheets have been used. The goal of this study is to ensure the grade sheets are achieving their goal and if not, make appropriate changes to improve them. Using grade sheets to formally assess the performance of student pilots is not a task that instructors are used to completing while conducting a training flight. Key areas of interest for this study are the increased workload of the instructors as a result of assessing the performance using the grade sheets, the time it takes for instructors to complete the task and ultimately whether the grade sheets in their current form are capturing the performance of the student pilots in a way that would benefit training. Based on the feedback received so far, instructors agree that using the grade sheet does increase their workload but not to a point where safety would be compromised in flight. Additionally, it has been observed that instructors can complete the grade sheet for a given exercise within 30-60 seconds depending on the exercise and the number of comments an instructor writes. Instructors also appear to complete the grade sheets more quickly as they become more familiar with the criteria they are grading and the layout of the grade sheet. Overall, instructors have provided positive feedback about the current design of the grade sheets, recognising the potential benefits to both student pilots and instructors alike.

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Appendix A – PPL Grade Sheet

Note: The exercises are numbered as they appear in the FTG – PPL – A. Not all exercises are assessed during a PPL flight test, and therefore the exercise numbers are not consecutive. Some exercises have multiple components which are identified by a letter following the exercise number.

Exercise 2A – Aeroplane Familiarisation and Preparation for Flight – Documents and Airworthiness (Ground Item)						Comments/Justifications
ensure that flight authorisation is confirmed and encompasses the requirements of the intended flight in accordance with the applicable operational control system						
<i>Application of Procedures</i>	1	2	3	4	N/A	
determine if the documents required on board are valid						
<i>Application of Procedures</i>	1	2	3	4	N/A	
determine from the aircraft documents, including the Aircraft Journey Logbook, that the maintenance release stipulates aeroplane serviceability and that no service or inspection requirements will come due during the period of the intended flight						
<i>Application of Procedures</i>	1	2	3	4	N/A	
determine the number of flying hours remaining before the next service or maintenance task						
<i>Application of Procedures</i>	1	2	3	4	N/A	
ensure that any conditions or limitations on the maintenance release can be complied with						
<i>Application of Procedures</i>	1	2	3	4	N/A	
determine the impact of deferred defects on aeroplane operations for the intended flight						
<i>Application of Procedures</i>	1	2	3	4	N/A	
explain the process for dealing with aeroplane unserviceabilities discovered during a flight						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 2B – Aeroplane Familiarisation and Preparation for Flight – Aeroplane Performance (Ground Item)	Comments/Justifications					
<p>state from memory and explain the practical application for the following speeds:</p> <p>i) best angle of climb speed (V_X)</p> <p>ii) best rate of climb speed (V_Y)</p> <p>iii) manoeuvring speed (V_A)</p>						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
<p>calculate for the proposed flight:</p> <p>i) take-off distance required to clear a 50 foot or existing obstacle</p> <p>ii) landing distance required to clear a 50 foot or existing obstacle</p> <p>iii) the power setting proposed for the planned enroute cruising flight (percentage, manifold pressure and RPM) and the expected cruise speed in KTAS</p> <p>iv) the available flight time with the fuel load and power settings proposed for the navigation flight</p>						
<i>Application of Procedures</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 2C – Aeroplane Familiarisation and Preparation for Flight – Weight and Balance (Ground Item)						Comments/Justifications
determine if the take-off, landing and zero-fuel weights, as well as the computed center of gravity are within permissible limits						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
demonstrate practical knowledge of how to correct a situation in which the center of gravity is out of limits and/or in which the gross weight is exceeded						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
explain the effect of various center of gravity locations on aeroplane flight characteristics						
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 2D – Aeroplane Familiarisation and Preparation for Flight – Pre-Flight Inspection (Air Item)						Comments/Justifications
use an orderly procedure to inspect the aeroplane including at least those items listed by the manufacturer or aeroplane owner						
<i>Application of Procedures</i>	I	2	3	4	N/A	
identify and verify switches, circuit breakers/fuses, and spare fuses						
<i>Application of Procedures</i>	I	2	3	4	N/A	
confirm that there is sufficient fuel and oil for the intended flight						
<i>Application of Procedures</i>	I	2	3	4	N/A	
state the flight endurance at the intended cruising speed and altitude with the fuel quantity on board						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
verify that the aeroplane is in a condition for safe flight						
<i>Application of Procedures</i>	I	2	3	4	N/A	
describe the appropriate action to take for any unsatisfactory item, detected or described by the examiner						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
identify and verify the location and security of baggage and required equipment						
<i>Application of Procedures</i>	I	2	3	4	N/A	
organise and arrange material and equipment in a manner that makes the items readily available						
<i>Application of Procedures</i>	I	2	3	4	N/A	
perform an effective passenger safety briefing that will include:						
i) use of seat belts and shoulder harnesses; ii) the location and use of emergency exits						
iii) emergency locator transmitter, fire extinguisher; iv) passenger considerations for aircraft evacuation						
v) action to take in the event of an emergency landing; vi) smoking limitations						
vii) items specific to the aeroplane type being used; viii) other items for use in an emergency						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	I	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	I	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	I	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	I	2	3	4	N/A	

Exercise 2E – Aeroplane Familiarisation and Preparation for Flight – Engine Starting, and Run-up, Use of Checklist						Comments/Justifications
use the appropriate checklist provided by the manufacturer or aeroplane owner						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
accurately complete the engine and aeroplane systems checks						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
check flight controls for freedom of operations and correct movements						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
take appropriate action with respect to unsatisfactory conditions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 2F – Aeroplane Familiarisation and Preparation for Flight – Operation of Aircraft System						Comments/Justifications
<p>Assessment will be based on the candidate's proficiency to operate the aeroplane systems in accordance with the POH/AFM and explain the operation of two (2) of the following systems, as specified by the examiner:</p> <p>a) primary flight controls and trim b) carburetor heat c) mixture d) propeller e) fuel, oil, hydraulic f) electrical g) flaps h) landing gear i) brakes j) avionics suite k) pitot-static, vacuum/pressure system and associated flight instruments l) heater and environmental system m) de-icing and anti-icing</p>						
<i>Application of Procedures</i>		1	2	3	4	N/A
<i>Communication</i>		1	2	3	4	N/A
Overall						
<i>LEADERSHIP and TEAMWORK</i>		1	2	3	4	N/A
<i>PROBLEM SOLVING and DECISION-MAKING</i>		1	2	3	4	N/A
<i>SITUATIONAL AWARENESS</i>		1	2	3	4	N/A
<i>WORKLOAD MANAGEMENT</i>		1	2	3	4	N/A

Exercise 4 – Taxiing						Comments/Justifications
perform a brake check						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
effective use of brakes, not dragging brakes while taxiing						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
position flight controls as appropriate for the actual or simulated wind conditions						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
demonstrate proficiency by maintaining correct and positive aeroplane control						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
safely manoeuvre the aeroplane, considering other traffic on aprons and manoeuvring areas						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
use of appropriate taxiing speeds						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
maintain a safe distance from other aeroplanes, obstructions and persons						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
adhere to local taxi rules, procedures and air traffic control clearances and instructions						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
confirm the correct functioning of the flight instruments						
<i>Application of Procedures</i>	1	2	3	4	N/A	
accomplish the applicable checklist items and perform recommended procedures						
<i>Application of Procedures</i>	1	2	3	4	N/A	
identify and correctly interpret airport, taxiway and runway signs, markings and lighting						
<i>Application of Procedures</i>	1	2	3	4	N/A	
after landing, clear the runway/landing area and taxi to suitable parking/refuelling area						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
maintain constant vigilance and aeroplane control during taxi operations						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
park and secure the aeroplane properly, considering existing or forecast conditions						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	

OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 9 – Steep Turn						Comments/Justifications
roll into and out of turns using smooth and coordinated pitch, bank yaw and power control						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
roll into a coordinated turn with an angle of bank of 45°						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain coordinated flight						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain the selected altitude (±100 feet)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain the selected airspeed (±10 knots)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain the selected angle of bank (±45°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
visually recover from the turn at the pre-selected recovery reference point (±10°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 11 – Slow Flight						Comments/Justifications
complete appropriate safety precautions before entering slow flight						
<i>Application of Procedure</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
establish and maintain the aeroplane in slow flight as indicated by intermittent stall warning or aerodynamic buffeting, with an aircraft configuration appropriate for the speed range						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
demonstrated coordinated straight and level flight and a level turn, with an angle of bank of 15° in slow flight						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
prevent a stall						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain specified altitudes (±100 feet)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain specified heading (±10°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain specified angles of bank (±5°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
roll out on specified heading (±10°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
recover promptly and smoothly to normal flight on command of the examiner						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 12A– Stall (Power off)						Comments/Justifications
complete appropriate safety precautions before entering a stall						
<i>Application of Procedures</i>	1	2	3	4	N/A	
establish the specified configuration						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
transition smoothly to a pitch attitude that will induce a stall						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
recognise and announce the onset of the stall by identifying the stall warning, the first aerodynamic buffeting or decay or control effectiveness						
<i>Communication</i>	1	2	3	4	N/A	
stall the aeroplane						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
maintain directional control						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
smoothly recover using control applications in the correct sequence by promptly reducing the angle of attack to break the stall and levelling the wings						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
avoid a secondary stall and add full power and return to a cruise altitude						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
return to the altitude, heading and airspeed specified by the examiner or instructor						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 12B – Stall (Power on)						Comments/Justifications
complete appropriate safety precautions before entering a stall						
<i>Application of Procedures</i>	1	2	3	4	N/A	
establish the specified configuration						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
transition smoothly to a pitch attitude that will induce a stall						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
recognise and announce the onset of the stall by identifying the stall warning, the first aerodynamic buffeting or decay of control effectiveness						
<i>Communication</i>	1	2	3	4	N/A	
stall the aeroplane						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
maintain directional control						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
smoothly recover using control applications in the correct sequence by promptly reducing the angle of attack to break the stall and levelling the wings						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
avoid a secondary stall and add full power and return to a cruise altitude						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
return to the altitude, heading and airspeed specified by the examiner						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 14 – Spiral						Comments/Justifications
recover promptly and smoothly using coordinated control applications in the proper sequence						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
return smoothly to straight and level flight without excessive loss of altitude						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
avoid exceeding any operating limitation of aeroplane						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 15 – Slipping						Comments/Justifications
smoothly establish an effective slip						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
perform a slip appropriate to the flight profile or crosswind condition						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
in the case of a forward slip, maintain the intended flight path						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
recover smoothly to coordinated flight						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 16A– Normal Takeoff						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
respect ATC clearances and instructions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
specify a GO/NO GO decision point						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
position the flight controls and configure the aeroplane for the existing or simulated conditions						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
check for traffic, taxi into position and align the aeroplane on the runway centerline						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
advance throttle smoothly to takeoff power						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
confirm takeoff power is set						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain directional control during the takeoff roll						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
rotate at recommended airspeed (+10/-5 knots)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
accelerate to and maintain recommended or briefed climb speed (+10/-5 knots)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
retract the landing gear and flaps (where applicable) at a safe height						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

maintain takeoff power to a safe height then, where applicable, set climb power						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
eliminate drift and tack along the runway centreline and extended centreline						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with noise abatement procedures						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 16B.1 – Short-Field Takeoff						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
respect ATC clearances and instructions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
specify a GO/NO GO decision point						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
position the flight controls and configure the aeroplane for the existing or simulated conditions						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
check for traffic and taxi into position for maximum utilisation of available takeoff distance						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
advance throttle smoothly to takeoff power while holding the brakes						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
confirm static takeoff power is set						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain directional control during the takeoff roll						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
rotate at recommended airspeed (+10/-5 knots)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
establish the pitch attitude of the recommended obstacle clearance airspeed, and maintain that speed (+10/-5 knots) until any actual or simulated obstacle is cleared or until reaching 50 feet AGL						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
retract the landing gear (where applicable) at a safe height						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

retract the flaps (where applicable) at a safe height and above the minimum recommended flap retraction speed						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain take-off power to a safe height, then, where applicable, set climb power (± 0.5" MP, ± 50 RPM)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain directional control and apply drift correction in the climb						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checks						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 16B.2 – Soft-Field Takeoff						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
position the flight controls and configure the aeroplane for the existing or simulated conditions						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
specify a GO/NO GO decision point						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
check for traffic and taxi onto the take-off surface at a safe speed while keeping the nose wheel as light as possible and, without stopping, advance the throttle smoothly to takeoff power (ATC instructions must be complied with)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
confirm takeoff power is achieved						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain directional control during the takeoff roll						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
establish and maintain pitch attitude that will effectively and efficiently transfer the weight of the aeroplane from the wheels to the wings						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
lift off at the slowest airspeed commensurate with safety in existing conditions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
remain in ground effect and accelerate to V_x or V_y, as obstacles may dictate						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
establish the pitch attitude for the recommended climb speed and maintain that speed (+10/-5 knots)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

retract the landing gear (where applicable) at a safe height						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
retract the flaps (where applicable) at a safe height and above the minimum recommended flap retraction speed						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain take-off power to a safe height, then, where applicable, set climb power (± 0.5" MP, ± 50 RPM)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain directional control and apply drift correction in the climb						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 17 – Circuit						Comments/Justifications
fly an accurate circuit while maintaining a safe separation from other aircraft						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with actual or simulated air traffic control clearances or instructions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with circuit entry and departure procedures						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with established circuit patterns						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
transmit the required radio calls						
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
correct for wind drift to maintain the desired ground track						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain circuit altitude (±100 feet) and an appropriate airspeed						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
avoid wake turbulence and follow applicable noise abatement procedures						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with other procedures that may be in effect at the time						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 18A – Normal Approach and Landing						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
establish the recommended approach and landing configuration						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain a stabilised approach at the recommended airspeed, or in its absence, 1.3 V_{SO} (+10/-5 knots)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain crosswind correction and directional control throughout the approach and landing						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
make smooth, timely and correct control applications during the approach and landing						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
touch down smoothly at a minimum speed for existing conditions, at the specified touch-down point						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
touch down in accordance with the POH/AFM or best accepted practice for the aeroplane type						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
apply brakes, as necessary, without excessive lockup or skidding						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checks						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 18B.1 – Short-Field Approach and Landing over an Obstacle						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
select the most suitable touchdown zone and specify a touchdown point in consideration of the obstacles to be cleared						
<i>Communication</i>	1	2	3	4	N/A	
execute the initial approach using recommended airspeeds and configurations						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
fly a stabilised final approach descent profile the safely clears any actual or simulated obstacles, and results in the appropriate configuration and one of the following (V_{ref}) speeds at a height of 50 feet above the threshold: i) the recommended final approach speed (+10/-5 knots); or ii) 1.3 V_{so} (+10/-5 knots); or iii) the minimum safe speed for existing conditions, such as gusty or crosswind conditions						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
maintain crosswind correction and directional control throughout the approach and landing						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
make smooth, timely and correct control applications during the landing flare and touchdown						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
touch down at the specified touch-down point (+200/-50 feet) in accordance with the POH/AFM or best accepted practice for the aeroplane type						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
touch down with no side drift, and with the longitudinal axis aligned with and within 15 feet of the center of the landing surface						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
apply brakes, without excessive lockup or skidding and stop safely in the shortest distance						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
complete appropriate checks						
<i>Application of Procedures</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 18B.2 – Soft-Field Approach and Landing						Comments/Justifications
review passenger safety (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
execute the initial approach using recommended airspeeds and configurations						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
fly a stabilised final approach descent profile the safely clears any actual or simulated obstacles, and results in the appropriate configuration and one of the following (V_{ref}) speeds at a height of 50 feet above the threshold:						
i) the recommended final approach speed (+10/-5 knots); or						
ii) 1.3 V_{so} (+10/-5 knots); or						
iii) the minimum safe speed for existing conditions, such as gusty or crosswind conditions						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain crosswind correction and directional control throughout the approach and landing						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
touch down using power as necessary to achieve and maintain the landing attitude for the slowest possible touch down on the main wheels while preventing nose wheel or tail cone contact with the ground						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
keep the nose wheel off the ground as long as possible with appropriate use of power and elevator control, while decelerating in consideration of the remaining length of available runway						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checks						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 18C – Overshoot						Comments/Justifications
overshoot on command or make a timely decision to discontinue the approach to landing						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
promptly and smoothly apply maximum allowable power and establish a pitch attitude that will stop the descent						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
retract the flaps in stages or as recommended by the manufacturer						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
retract the landing gear (where applicable) after a positive rate of climb is established						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
accelerate to and maintain the recommended climb speed (+10/-5 knots)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain maximum allowable power to a safe manoeuvring altitude then, where applicable set climb power						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checklist						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 21 – Precautionary Landing						Comments/Justifications
comply with circuit procedures at an aerodrome						
<i>Application of Procedures</i>	1	2	3	4	N/A	
make appropriate radio calls (simulated or actual), as applicable						
<i>Communication</i>	1	2	3	4	N/A	
establish a circuit at an appropriate distance from the runway, airstrip or landing area						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
review passenger safety for landing (example; seat belt secure, door locked)						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
configure and trim the aeroplane for the low-level inspection at an airspeed adjusted for existing conditions, as recommended in the POH/AFM, while in straight and level flight						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
execute a stabilised approach for the low-level inspection at the recommended airspeed (+10/-5 knots)						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
overfly the landing area in stabilised level flight at a safe height above obstacles for both the approach and departure and at an airspeed that will permit an effective assessment of surface conditions						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
indicate the type of landing to be used						
<i>Communication</i>	1	2	3	4	N/A	
complete appropriate checks						
<i>Application of Procedures</i>	1	2	3	4	N/A	
perform a stabilized final approach in a manner that would permit touching down within the selected touchdown zone						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 22A/B – Forced Landing						Comments/Justifications
control the aeroplane and initially establish the recommended best glide speed (+10/-5 knots)						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
specify a suitable landing area and a touchdown zone in the first 1/3 of the landing area, considering wind conditions, terrain, obstacles and other factors						
<i>Communication</i>	1	2	3	4	N/A	
fly an organised approach while adjusting the flight profile to arrive at key points at the desired height and position						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
fly an approach towards the selected touchdown zone with a level of precision that would avoid touching down more than 1,000 feet (300 meters) beyond the end of the selected touchdown zone						
<i>Flight Path Management - Manual</i>	1	2	3	4	N/A	
complete the basic vital actions from memory						
<i>Application of Procedures</i>	1	2	3	4	N/A	
follow-up with a placard or a checklist for 'Engine Failure in Flight' emergency procedures, if time permits						
<i>Application of Procedures</i>	1	2	3	4	N/A	
simulate an appropriate radio call, if time permits						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
perform a passenger emergency safety review						
<i>Application of Procedures</i>	1	2	3	4	N/A	
<i>Communication</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 23A – Pilot Navigation – Pre-Flight Planning Procedures (Ground Item)	Comments/Justifications					
use appropriate and current aeronautical paper charts and other current flight publications including the POH/AFM and the Canada Flight Supplement (CFS) to extract and record pertinent information						
<i>Application of Procedures</i>	1	2	3	4	N/A	
properly identify airspace, obstructions, terrain features and map symbols						
<i>Application of Procedures</i>	1	2	3	4	N/A	
retrieve and interpret weather information and NOTAMs, PIREPs and SIGMETs relevant to the intended flight						
<i>Application of Procedures</i>	1	2	3	4	N/A	
prepare contingency plans for intermediate or alternate destinations						
<i>Application of Procedures</i>	1	2	3	4	N/A	
select the most favourable and appropriate cruising altitudes, considering weather conditions and equipment capabilities						
<i>Application of Procedures</i>	1	2	3	4	N/A	
prepare a chart and a navigational flight log, including estimated headings, appropriate power settings, ground speed, fuel requirements and time enroute						
<i>Application of Procedures</i>	1	2	3	4	N/A	
complete an ICAO VFR flight plan form for review by the examiner						
<i>Application of Procedures</i>	1	2	3	4	N/A	
complete planning, preparations and calculations, excluding weight and balance computations for the actual test flight, within one (1) hour						
<i>Application of Procedures</i>	1	2	3	4	N/A	
demonstrate practical knowledge of how to determine certain key elements of flight planning such as estimated time enroute and fuel requirements						
<i>Application of Procedures</i>	1	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	1	2	3	4	N/A	

Exercise 23B – Pilot Navigation – Departure Procedure						Comments/Justifications
note take-off time						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
use an organized and efficient procedure to intercept the pre-planned track						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
comply with all departure clearances and instructions						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
open the flight plan with ATS or simulate opening with the examiner						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Communication</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
set the heading indicator by reference to the magnetic compass or other acceptable means						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
note set heading time at or abeam the set-heading point in the Flight Log						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
estimate the time of arrival for the first turning point or destination						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
complete appropriate checks						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 23C – Pilot Navigation – Enroute Procedure						Comments/Justifications
set power, lean mixture and manage fuel and engine cooling as recommended in the POH/AFM for the desired performance						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
verify that planned cruise performance has been achieved, i.e. power and KTAS						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain cruising altitudes (±200 feet)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
maintain headings (±10°)						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
navigate by applying systematic navigation techniques (not simply track crawling)						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
record revised ground speeds, estimated times of arrival (ETA), new headings and times over checkpoints in the Navigation Flight Log enroute						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
within 15 minutes after setting heading, demonstrate an organized method that would:						
i) verify the position of the aircraft						
ii) revise headings to correct any existing track error to maintain the aircraft position within three (3) nautical miles of the planned route						
iii) confirm or revise the ETA for the first turning point or destination						
iv) confirm fuel requirements to reach the destination or first refuelling stop						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 23D – Pilot Navigation – Diversion to an Alternate						Comments/Justifications					
perform the following tasks expeditiously:											
i) identify and record present position											
ii) select an appropriate alternate destination											
iii) estimate an initial heading to fly direct, based on a track line; OR											
iv) select a series of geographical references that would lead to the destination											
v) estimate an approximate time enroute to the alternate destination											
vi) estimate an approximate available flight time that will remain with the fuel on board upon arrival at the destination (e.g.: 2 hours+15 minutes)											
<i>Application of Procedures</i>						1	2	3	4	N/A	
intercept the proposed track and divert toward the alternate destination											
<i>Flight Path Management - Manual</i>						1	2	3	4	N/A	
identify the highest Maximum Elevation Figure (MEF) along the selected route and determine a minimum safe altitude for the actual route											
<i>Application of Procedures</i>						1	2	3	4	N/A	
select an aircraft configuration and airspeed appropriate for the actual or simulated conditions, if those conditions include poor visibility (for optimum “See and Avoid”)											
<i>Application of Procedures</i>						1	2	3	4	N/A	
<i>Flight Path Management - Manual</i>						1	2	3	4	N/A	
provide an initial ETA when setting heading and confirm or revise that ETA while enroute											
<i>Application of Procedures</i>						1	2	3	4	N/A	
maintain the selected airspeed (± 10 knots)											
<i>Flight Path Management - Manual</i>						1	2	3	4	N/A	
maintain the selected headings, when dead-reckoning ($\pm 10^\circ$)											
<i>Flight Path Management - Manual</i>						1	2	3	4	N/A	
maintain declared altitudes (± 200 feet)											
<i>Flight Path Management - Manual</i>						1	2	3	4	N/A	
simulate communication with ATS to inform of intention to divert											
<i>Application of Procedures</i>						1	2	3	4	N/A	
<i>Communication</i>						1	2	3	4	N/A	
OVERALL											
<i>LEADERSHIP and TEAMWORK</i>						1	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>						1	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>						1	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>						1	2	3	4	N/A	

Exercise 24A – Instrument Flying - Full Panel						Comments/Justifications
±15° of the assigned heading						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
±200 feet of the assigned altitude						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
±15 knots of the assigned airspeed						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
an angle of bank not to exceed the limit (peg) of the turn and bank indicator/turn-coordinator						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 24B – Instrument Flying - Recovery from Unusual Attitude						Comments/Justifications
apply smooth coordinated control application in the correct sequence						
<i>Application of Procedures</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
avoid and prevent entry to a stall						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
recover to straight and level flight using correct instrument cross-check and interpretation						
<i>Flight Path Management - Manual</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>SITUATIONAL AWARENESS</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	
<i>WORKLOAD MANAGEMENT</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>N/A</i>	

Exercise 29 – Emergency Procedure/Malfunctions						Comments/Justifications
<p>Assessment will be based on the candidate’s proficiency to analyze a situation, take appropriate action and follow appropriate memory items, emergency checklists items and/or procedures for any two (2) of the following simulated emergencies/malfunctions, as specified by the examiner:</p> <p>a) partial power loss b) rough engine operation or overheat c) loss of oil pressure d) fuel starvation e) electrical fire f) vacuum system failure g) pitot or static blockage h) cabin fire i) carb icing j) electrical malfunctions k) landing gear malfunctions l) brake failure or seizure m) flap failure n) door opening in flight o) spin recovery p) emergency descent q) any other emergency unique to the type of the aeroplane flown</p>						
<i>Application of Procedures</i>		1	2	3	4	N/A
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>		1	2	3	4	N/A
<i>PROBLEM SOLVING and DECISION-MAKING</i>		1	2	3	4	N/A
<i>SITUATIONAL AWARENESS</i>		1	2	3	4	N/A
<i>WORKLOAD MANAGEMENT</i>		1	2	3	4	N/A

Exercise 30 – Radio Communication						Comments/Justifications
select appropriate frequencies for facilities to be used						
<i>Application of Procedures</i>	I	2	3	4	N/A	
demonstrate a practical knowledge of the radio/avionics installation in the aircraft						
<i>Application of Procedures</i>	I	2	3	4	N/A	
transmit using recommended phraseology while demonstrating an efficient and understandable use of the English or French language, as appropriate						
<i>Communication</i>	I	2	3	4	N/A	
acknowledge and comply with radio communications and ATC instructions						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
maintain a “listening watch” and making appropriate radio calls on the appropriate frequency applicable to the airspace or training area						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
comply with or demonstrate a practical knowledge of ATC light signals						
<i>Application of Procedures</i>	I	2	3	4	N/A	
demonstrate or explain the correct procedure for obtaining emergency radar assistance or a Special VFR clearance						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
explain how to obtain weather information from a radio facility						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
explain how to use correct emergency communication procedures, the use of transponder codes and cellphone backup in the event of radio communications failure						
<i>Application of Procedures</i>	I	2	3	4	N/A	
<i>Communication</i>	I	2	3	4	N/A	
OVERALL						
<i>LEADERSHIP and TEAMWORK</i>	I	2	3	4	N/A	
<i>PROBLEM SOLVING and DECISION-MAKING</i>	I	2	3	4	N/A	
<i>SITUATIONAL AWARENESS</i>	I	2	3	4	N/A	
<i>WORKLOAD MANAGEMENT</i>	I	2	3	4	N/A	

Appendix B – Rubric

4	Performance is well executed considering existing conditions:
	• Flight Path Management (-Manual or -Automation) is smooth and positive with a high level of precision
	• Application of Procedures indicate a thorough knowledge of procedures, aircraft systems, limitations and performance characteristics
	• Situational Awareness indicates continuous anticipation and vigilance
	• Problem Solving and Decision-Making indicate all information was assessed for accuracy and a number of options were generated before selecting the most appropriate option (time permitting)
	• Workload Management is exemplary and tasks are properly prioritised. All possible threats are anticipated and mitigated.
	• Communication is highly effective, standard phraseology is always used and briefings are very thorough yet concise
	• Leadership and Teamwork is displayed through discipline in all situations and communicates all concerns and intentions
• Safety margins are maintained through consistent and effective management of aircraft systems and mandated operational protocols	
3	Performance is observed to include minor errors:
	• Flight Path Management (-Manual or -Automation) occurs with appropriate control input includes minor deviations
	• Application of Procedures indicate an adequate knowledge of procedures, aircraft systems, limitations and performance characteristics to successfully complete the task
	• Situational awareness is adequately maintained as candidate responds in a timely manner to cues and changes in the flight environment to maintain safety while achieving the aim of the sequence/item
	• Problem Solving and Decision-Making indicate most information was assessed for accuracy and a number of options were generated before selecting the one of the most appropriate options (time permitting)
	• Workload Management is effective. Most threats are anticipated and errors are recognized and recovered
	• Communication is effective, standard phraseology is predominantly used and briefings are thorough
	• Leadership and Teamwork is displayed through discipline in most situations and communicates most concerns and intentions
• Safety margins are maintained through effective use of aircraft systems and mandated operational protocols	
2	Performance is observed to include major errors:
	• Flight Path Management (-Manual or -Automation) is performed with major deviations and/or an occasional lack of stability, over/under control or abrupt control input
	• Application of Procedures reveal deficiencies either in depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that do not prevent the successful completion of the task
	• Situational awareness appears compromised as cues are missed or attended too late or the candidate takes more time than ideal to incorporate cues or changes into the operational plan
	• Problem Solving and Decision-Making indicate limited information was assessed for accuracy and few options were generated before selecting the one of the least appropriate options (time permitting)
	• Workload Management is not very effective. Instrument displays, aircraft warnings or automation serve to avert an undesired aircraft state by prompting or remedying threats and errors that are noticed late
	• Communication is somewhat effective, standard phraseology is sometimes used and briefing omit some important information
	• Leadership and Teamwork is displayed through discipline in few situations and communicates few concerns and intentions
• Safety margins are not compromised, but poorly managed	
1	Performance is observed to include critical errors or the aim (objective) of the test sequence/item is not achieved:
	• Flight Path Management (-Manual or -Automation) is performed with critical deviations and/or a lack of stability, rough use of controls or control of the aircraft is lost or in doubt
	• Application of Procedures reveal unacceptable levels of depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that prevent a successful completion of the task
	• Lapses in Situational awareness occur due to a lack of appropriate scanning to maintain an accurate mental model of the situation or there is an inability to integrate the information available to develop and maintain an accurate mental model
	• Problem Solving and Decision-Making indicate little to no information was assessed for accuracy and only a single option was generated
	• Workload Management is ineffective, indecisive or noncompliant with mandated published procedures and/or corrective countermeasures are not effective or applied
	• Communication is ineffective, standard phraseology is rarely used and briefings do not occur or omit most of the important information
	• Leadership and Teamwork is displayed through discipline is not displayed
• Safety margins are compromised or clearly reduced	