SECTION 2 – FLYING TRAINING

Go To Section 1 | Go To Section 3

SUBSECTION 1 – INTRODUCTION

1.1. Syllabus Structure

The Day VFR Flying Training Syllabus is divided into five sub sections**:**

- **Introduction** (This subsection)
  Provides an overview of the concept of competency and its application to flying training. Outlines the general structure and requirements of the flying training syllabus.
- **Achievement Record**
  Details the Units and elements of competency required at each phase of training and the achievement standard for each element. It includes the student's record of achievement.
- **Assessment Guide for PPLA**
  Provides a guide for students, instructors and testing officers as to how to assess that the required standard for each of the elements in the PPLA syllabus has been achieved.
- **Assessment Guide for CPLA**
  Provides a guide for students, instructors and testing officers as to how to assess that the required standard for each of the elements in the CPLA syllabus has been achieved.
- **Flight Test Pro-forma**
  Specifies the elements that must be tested and is used to record the results of the flight test. See pages 85 and 86.

1.2. Flying Training Phases

The Flying Training Syllabus is divided into five phases. They are:

- Pre-solo
- Pre-area solo
- GFPT (General Flying Progress Test)
- PPLA (Private Pilot Licence Aeroplanes)
- CPLA (Commercial Pilot Licence Aeroplanes)

Flight tests are conducted for:

- GFPT
- PPLA
- CPLA.

The units and element of competency that are required to be completed in each phase are specified in Subsection 2. This subsection constitutes the record of achievement for each phase of training.

1.3. National Competency Standards

This edition of the Day VFR Syllabus incorporates the Australian National Competency Standards for Private and Commercial Pilots. These competency standards were developed by the aviation industry and have been approved by CASA and endorsed by the Australian National Training Authority (ANTA). The Flying Training section of the Day VFR Syllabus now incorporates the National Standards. The standards are specified in terms of units and elements of competency and include an assessment guide.

- **Competency**

  Competency itself is defined as the combination of knowledge, skills and attitude required to perform a task to the standard required by industry. The competency standards specify all those skills that must be demonstrated by pilots in order to obtain a PPLA or a CPLA.

1.4. Units and Elements of Competency

Units specify all the competencies required for private and commercial pilots to fly an aeroplane under the VFR by day. Units are further subdivided into elements that relate more closely to the training sequences used in the previous Day VFR Syllabus.

- **Assessment guide**

  The standards incorporate an assessment guide, which details the evidence by which a pilot's competency may be objectively evaluated. It allows students, instructors and testing officers to easily ascertain the competencies and the standards to be achieved at each stage of a student's training. Specifying the evidence by which the pilot's performance is evaluated should lead to greater fairness and consistency in training and testing across the flying training industry.

The Day VFR Syllabus goes beyond the National Competency Standards in that it specifies requirements regarding the conduct of flying training and the standards to be achieved at critical stages of a pilot's training such as first solo and the GFPT. The requirements are designed to ensure the safety of flying training operations, particularly where a student pilot may be authorised to act as pilot in command of an aeroplane. Publication of the Day VFR Syllabus is authorised under Civil Aviation Regulations (CARs).

While the Day VFR Syllabus lists the competencies required at each stage of training, it is not intended to be a curriculum of training. It is up to individual flying schools to devise a curriculum for training and assessment which will result in pilots meeting the standards specified in this syllabus.

1.5. Flight Tests

Flight Tests are required for the GFPT, PPLA and CPLA. Flight tests must be conducted by either an ATO or an FOI. Applicants for a flight test must have met the requirements set down in CARs that are summarised in Section 1 Subsection 2 of this Syllabus.

A flight test must be conducted in accordance with the items listed on the flight test pro-forma. A flight test pro-forma for each type of flight test is found at Section 2 Subsection 5. The standards required to obtain a pass in the sequences conducted in the flight test are those specified in the assessment guide in this syllabus.

The flight test must be conducted in a suitable aeroplane as specified in CARs.

> **Note:** The flight test for a CPLA must be conducted in an aeroplane fitted with a constant speed propeller (or no propeller) and which has a cruise speed of at least 120 knots at the manufacturer's recommended cruise power setting.

1.6. Aeronautical Experience

Persons using this syllabus should note that the aeronautical experience and other requirements applying to the issue of a SPL, PPLA and CPLA are contained in CARs and are summarised in Section 1 Subsection 2 of this syllabus. The aeronautical experience is the minimum required for the issue of the particular licence whereas the standards specified in this syllabus are the minimum that must be met to achieve a pass in the flight test. Applicants for a licence must meet both requirements.

1.7. Determination of Pilot Standards

The competency standards contained in the national standard and in this syllabus are organised into units of competency which represent the areas of skill and knowledge required to perform the task of piloting an aeroplane, for example **Unit 5** of the PPLA Syllabus is **Control aeroplane in normal flight**.

The units of competency are further subdivided into the elements of skill that go to make up the unit. For example the elements listed for **Unit 5** are:

- Climb aeroplane.
- Maintain straight and level flight.
- Descend aeroplane.
- Turn aeroplane.
- Control aeroplane at slow speeds.
- Performs circuits and approaches.
- Comply with airspace requirements.

The units and elements that must be achieved at each stage of training are specified in the Achievement Records in Section 2 Subsection 2.

Achievement records are included for each of the following phases of training:

- First Solo
- First Area Solo
- GFPT
- PPLA
- CPLA

Definition of Achievement Standards

For first solo flights and the GFPT, the standards that must be met may not necessarily be as high as those required for the issue of the licence. Therefore the achievement record for first solo, first area solo and GFPT lists the standard at which each element must be achieved as a number from 1 to 4. The numbers used to denote standard in the achievement record have the following significance:

1 Achieved standard required for Commercial Pilot as detailed in the Australian National Competency Standards for Private and Commercial Pilots.

2 Achieved standard required for Private Pilot as detailed in the Australian National Competency Standards for Private and Commercial Pilots.

3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.

4 Has received training in the element but not able to consistently achieve the PPL standard.

> **Note:** The word "safe" used in standard 3 means that the pilot may achieve the required standard on the majority, but not necessarily on all occasions. However the student should be able to recognise a situation where the desired outcome of a manoeuvre may be in doubt and take appropriate corrective action to recover.

The assessment of the standard must be based on the evidence contained in the Assessment Guide in Subsection 3 that lists the evidence of competency relating to each element. Assessors are referred to the Australian National Competency Standards for Private and Commercial Pilots for determination of the private and commercial pilot standards.

For a private pilot, assessment should confirm that control of the aeroplane or situation is maintained at all times and in such a manner that if the successful outcome of a procedure or manoeuvre is in doubt, corrective action is taken.

For a commercial pilot, assessment should confirm that control of the aeroplane or situation is maintained at all times and in such a manner that the successful outcome of a procedure or manoeuvre is not in doubt.

1.8. Achievement Record

Each phase of training incorporates an Achievement Record listing the units and elements of competency relating to that phase. Before being recommended for first solo, first area solo or any flight test, a student must have been assessed as competent in each element listed in the appropriate Achievement Record at the standard specified for that phase. The Achievement Record should be certified to this effect by the instructor making the assessment at the time that the student achieves competency in the element.

To avoid a requirement for duplicate certifications in successive phases, any elements that have been listed at the same standard in a previous phase are not repeated in subsequent phases.

The standard specified in each achievement record is the minimum required for the particular phase but, if a student can consistently achieve a higher standard, then the element may also be certified in the achievement records for any or all higher levels up to the PPLA. However it should be noted that certification for elements at the CPLA level must not be made until all PPLA elements in the PPLA phase have been completed and certified.

The Achievement Record is to be retained by the student and must be checked by the person authorising a first solo flight or conducting a flight test as having been completed for all items. A copy of the relevant record must be appended to a flight test form. The Achievement Record is additional to, and does not replace, the flying training records required to be maintained by the flying school.

1.9. Flying Standard and Assessment Guide

The assessment of whether or not the standard has been achieved is based on the assessment guide in Section 2 Subsection 3. The flying standard and assessment guide lists, for each element, the flying standard that must be achieved and the evidence that the assessor should look for to judge whether or not competency has been achieved. The evidence in the guide enables the assessment to be made objectively by observing specific and measurable actions by the pilot. The object of including the flying standard and the assessment guide in the syllabus is to indicate to students, instructors and testing officers, all the actions required to meet the required standard so that there is no doubt as to what constitutes an acceptable level of competency. For instance the Assessment Guide lists the following evidence for the element **Turn Aeroplane** of **Unit 5**:

Elements	**Evidence**
5.4 Turn aeroplane	Airspace cleared procedure is carried out before all turns. Bank angle is increased to 30° for level turn. Nose attitude is adjusted to maintain altitude. Aeroplane is balanced. Altitude is maintained (± 150 feet). Constant angle of bank is maintained (±5°). Aeroplane is balanced. Climbing turn is performed: Angle of bank does not exceed 20° in climbing turn (±5°). Climbing turn IAS is maintained (± 5 knots). Descending turn is performed: Descending turn IAS is maintained (± 10 knots). 30-degree angle of bank is maintained. Aeroplane is balanced. Rudder is used to counter yaw. Gliding turn through 180 degree heading change is performed and height loss is observed. Roll out from turn on to a specified direction or heading is performed (±10°). Wings are rolled level. Nose attitude is adjusted to maintain airspeed. Aeroplane is balanced. *Elements of Airmanship*: Situation awareness is maintained. Lookout is maintained in direction of turn and above or below. Airspeed is maintained within airframe limitations. Engine operating limits are not exceeded. Carburettor icing is avoided.

1.10. Technique and Judgement

Assessment should be based on the technique used by the candidate and not just the ability to perform the task within specified numerical tolerances. Technique involves smooth and accurate control application in adjusting power, attitude, trim and balance in a timely and coordinated fashion whilst following correct procedures. Additionally, sound judgement and decision-making should be displayed. It may be that on some occasions flight conditions (eg, turbulence) are such that even though the pilot's technique is sound the aeroplane may deviate outside specified tolerances for short periods. In such cases the assessment of technique should be the determining factor.

1.11. Airmanship

Simply defined, airmanship is the ability to fly safely. Essential aspects of airmanship have been incorporated in the evidence guide as applicable to the various elements of competency. They are incorporated as actions that must be demonstrated by the pilot to achieve the required standard of competence in the element.

1.12. National Standards

The flying training section of the Day VFR Syllabus is an abbreviated form of the national standards for aeroplane pilots. It is vital that Chief Flying instructors and Approved Testing Officers should be familiar with the National Standards document because it contains additional information that will assist in interpretation of the standards and is essential for the accurate assessment of pilot competency. Copies of the national standard are available from the AirServices Australia Publications Centre.

1.13. Definitions

The following is an explanation of terms used in these competency standards. The checks and actions detailed in these definitions are advisory. Checks and actions in approved checklists, placards, Flight manual/POHs, or Operations Manuals have precedence and must be complied with.

Aeroplane is balanced	The skid ball in the balance indicator is less than a quarter of the ball diameter from the centre.
Aiming point	The 'aiming point' related to a visual approach and landing of an aeroplane, is that point at which a pilot looks, in order to achieve a predetermined touchdown point.
Airspace cleared	Collision avoidance must always be practiced and a procedure followed to ensure a collision does not occur. This procedure is performed before all turns and manoeuvres. The procedure is: when turning left, "Clear right, clear ahead, clear left-turning left" or when turning right, "Clear left, clear ahead, clear right-turning right". If an object is closing and remains on a line of constant bearing (stays at the same point on the windscreen), a collision will occur if avoiding action is not taken.
Approved checklist	A checklist derived from information set out in the Flight manual/POH, placards or other documents provided with the aircraft, necessary to ensure the safe operation of the aircraft.
Controlled corrective action	Smooth, timely and coordinated control movements are made to adjust aeroplane attitude and balance to achieve a specified performance.
Controlled rate of descent	'Controlled rate of descent' associated with a landing means that the touchdown is without harshness and the successful outcome of the landing is not in doubt.
Effect of turbulence	The effect of turbulence must be considered when measuring standards of flying competency. Assessors must evaluate each situation and then apply considered judgement to compensate for variations to the published standards.
Ignition switch safety checks	The ignition switch safety checks may be used before engine shutdown, to ensure both magnetos are serviceable and are not 'live'. The switch sequence, with the engine at idle RPM, is: left magneto, only 'on'; right magneto, only 'on'; both magnetos momentarily 'off'; when an audible change to engine note or RPM drop is observed; both magnetos are turned 'on'. The engine is then shutdown using the normal method.
Immediate actions	These actions are performed immediately after an engine failure, while maintaining control of the aeroplane. The purpose of these actions is to re-establish engine power. The actions may include: carburettor heat-hot; fuel selected on or to another tank; mixture rich; fuel pump set as detailed in flight manual/POH; ignition on; any additional checks detailed in aeroplane flight manual/POH.
Line up checks	These checks are performed before take-off when lined up in the runway or take-off direction. The checks should include: Compass checked and aligned with take-off direction; Engine instruments indicate engine within operating limits.

Definitions (contd)

Pre manoeuvre checks	These checks are completed before performing manoeuvres that involve rapid changes of altitude, attitude or heading. The mnemonic "HASELL" may be used as a reminder for this check: H Height is sufficient to safely complete all manoeuvres. A Airframe configuration is appropriate for manoeuvres. S Security of harnesses and loose objects is ensured. E Engine instruments are checked, RPM, mixture, boost pumps and carburettor heat are set as required. Fuel remaining is adequate. L Location is correct, clear of built up areas, controlled airspace and restricted areas. L Lookout is maintained before and during manoeuvres.
Pre-descent or navigation turning point checks	These checks are completed before descending for approach and landing or operations at low level. The mnemonic 'CLEAR' may be used as a reminder for this check: C Compasses are synchronised and checked. L Log position and ETA to next reporting point. E Engine instruments and fuel are checked. A Altimeter sub scale is set and new altitude is confirmed. R Radio is tuned to operating frequency and intentions broadcast.
Safe	A manoeuvre or flight is completed without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the Australian National Competency Standards for Private and Commercial Pilots.
Shut down checks	These checks are completed when committed to a forced landing after an engine failure. The purpose is to isolate fuel and electrical sources that could lead to a fire. These checks may include: throttle closed; boost pumps 'off'; mixture 'idle cut off'; fuel 'off'; magnetos off' generator(s)/alternator(s) 'off'; safety harness 'secure'; any other checks detailed in flight manual/POH; master switch 'off' when electrical services no longer required.
Situation awareness	An appreciation of all factors relevant to the safe progress of a flight.
Touchdown point	The 'touchdown point' associated with a landing, is the point at which the aeroplane landing gear first contacts the runway or landing area.
Trouble checks	Trouble checks are performed to determine the cause(s) of an engine failure and to prepare the engine for a restart. Trouble checks may include: throttle set; fuel selected to a tank containing fuel; mixture set to optimum; engine primer locked; fuel boost pumps selected in accordance with flight manual/POH; carburettor heat set as required; magnetos on.
Wings are parallel to the horizon	A line joining the wing tips is kept parallel to the earth's horizon.

NAME:……**ARN:**……..

SUBSECTION 2 – ACHIEVEMENT RECORD

DAY VFR SYLLABUS – FIRST SOLO ACHIEVEMENT RECORD

Units and elements of competency that must be achieved prior to the first solo flight. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

Unit	Element	Standard	Instructor/ ARN/ Date
1. Manage Flight Administration	Complete pre and post flight actions Excluding: • Weight and balance; • TO and landing performance; • Access Met and NOTAM data.	3	
	Perform pre-flight inspection	3	
	Perform and certify daily inspection	4	
2. Operate Radio	Use R/T equipment (As applicable to circuit airspace.)	3	
	Maintain R/T equipment	4	
3. Control Aeroplane on the Ground	Start and stop engine	3	
	Taxi aeroplane	3	
4. Take-off Aeroplane	Carry out pre-take-off procedures	2	
	Take-off aeroplane (Excluding crosswind)	3	
	Carry out after take-off procedures	2	
5. Control Aeroplane in Normal flight	Climb Aeroplane (excluding maximum rate and angle)	3	
	Maintain straight and level flight	3	
	Descend aeroplane	3	
	Turn aeroplane	3	
	Control aeroplane at slow speed	3	
	Perform circuits and approaches (excluding flapless)	3	
	Comply with airspace requirements (as applicable to airspace)	3	

NAME:……**ARN:**……..

DAY VFR SYLLABUS – FIRST SOLO ACHIEVEMENT RECORD (CONT)

Unit	Element	Standard	Instructor/ ARN/ Date
6. Land Aeroplane	Land aeroplane (excluding crosswind) Perform mislanding procedures	3 3	
7. Execute Advanced Manoeuvres and Procedures	Enter and recover from stall Recover from incipient spin	3 4	
8. Manage Abnormal Situations	Manage engine failure after take-off Manage engine failure elsewhere in circuit	3 3	
9. Manage Fuel	Plan fuel requirements (Applicable to circuit area) Manage fuel system (Excluding range and endurance and refuelling requirements) Refuel aeroplane	3 3 4	

I have completed the training specified in the elements, which have been certified on this Achievement Record.

…….
(Signature)

Achievement Standard

3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.

4 Has received training in the element but not able to consistently achieve the PPL standard.

NAME:……**ARN:**……..

DAY VFR SYLLABUS – FIRST AREA SOLO ACHIEVEMENT RECORD

Units and elements of competency that must be achieved prior to the first area solo flight. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

All first solo competencies must have been completed. Elements already completed to the required standard are not repeated in this record.

Unit	Element	Standard	Instructor/ ARN/ Date
2. Operate Radio	Use R/T equipment (As applicable to area airspace) Maintain R/T equipment	3 3	
4. Take-off Aeroplane	Take-off aeroplane (including crosswind)	3	
5. Control Aeroplane in Normal flight	Comply with airspace requirements (Applicable to area)	3	
6. Land Aeroplane	Land aeroplane (Including crosswind)	3	
7. Execute Advanced Manoeuvres and Procedures	Recover from incipient spin Turn aeroplane steeply Sideslip aeroplane	3 4 4	
8. Manage Abnormal Situations	Perform forced landing	3	
9. Manage Fuel	Plan fuel requirements (For flight to area)	3	
12. Navigate Aeroplane	Comply with airspace procedures (For route and area) Conduct departure procedures Navigate aeroplane enroute Execute arrival procedures	3 3 3 3	

I have completed the training specified in the elements, which have been certified on this Achievement Record.

……..
(Signature)

Achievement Standard

3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.

4 Has received training in the element but not able to consistently achieve the PPL standard.

NAME:……**ARN**:…….

DAY VFR SYLLABUS – GFPT ACHIEVEMENT RECORD

Units and elements of competency that must be achieved prior to the GFPT. Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

All first solo and first area solo competencies must have been completed. Elements already completed to the required standard are not repeated in this record.

Unit	Element	Standard	Instructor/ ARN/ Date
1. Manage Flight Administration	Complete pre and post flight actions Perform pre-flight inspection Perform and certify daily inspection	2 2 3	
2. Operate Radio	Use R/T equipment Maintain R/T equipment	2 2	
3. Control Aeroplane on the Ground	Start and stop engine Taxi aeroplane	2 2	
4. Take-off Aeroplane	Take-off aeroplane	2	
5. Control Aeroplane in Normal flight	Climb aeroplane Maintain straight and level flight Descend aeroplane Turn aeroplane Control aeroplane at slow speeds Perform circuits and approaches	2 2 2 2 2 2	
6. Land Aeroplane	Land aeroplane Perform mislanding procedures	2 2	
7. Execute Advanced Manoeuvres and Procedures	Enter and recover from stall Recover from incipient spin Turn aeroplane steeply Sideslip aeroplane Execute short take-off and landing	2 2 3 3 3	

NAME:……**ARN**:……

DAY VFR SYLLABUS – GFPT ACHIEVEMENT RECORD (CONT)

Unit	Element	Standard	Instructor/ ARN/ Date
8. Manage Abnormal Situations	Manage engine failure after take-off Manage engine failure elsewhere in circuit Perform forced landing Conduct precautionary search and landing	2 2 2 2	
9. Manage Fuel (As applicable to area limitations)	Plan fuel requirements Manage fuel system Refuel aeroplane	2 2 3	
10. Control Aeroplane Solely by Reference to Full Instrument Panel	Perform manoeuvres	3	
11. Manage Passengers	Brief passengers Aid and assist passengers	2 2	
12. Recover from Spin (optional)	Recover from spin		

I have completed the training specified in the elements, which have been certified on this Achievement Record.

……..
(Signature)

Achievement Standard

3 Able to achieve the private pilot standard on the majority of occasions; safe to operate under direct supervision.

NAME:……**ARN:**……

DAY VFR SYLLABUS – PRIVATE PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD

Units and elements of competency that must be achieved prior to the Private Pilot Licence (Aeroplane) flight test. All items must be demonstrated to standard 2 (PPLA standard). Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment.

Unit	Element	Instructor/ ARN/ Date
1. Manage Flight Administration	Complete pre and post flight actions Perform pre-flight inspection Perform and certify daily inspection	
2. Operate Radio	Use R/T equipment Maintain R/T equipment	
3. Control Aeroplane on the Ground	Start and stop engine Taxi aeroplane	
4. Take-off Aeroplane	Carry out pre-take-off procedures Take-off aeroplane Carry out after take-of procedures	
5. Control Aeroplane in Normal flight	Climb aeroplane Maintain straight and level flight Descend aeroplane Turn aeroplane Control aeroplane at slow speeds Perform circuits and approaches Comply with airspace requirements	
6. Land Aeroplane	Land aeroplane Perform mislanding procedures	
7. Execute Advanced Manoeuvres and Procedures	Enter and recover from stall Recover from incipient spin Turn aeroplane steeply Sideslip aeroplane Execute short take-off and landing	

NAME:……**ARN:**……

DAY VFR SYLLABUS – PRIVATE PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD (CONT)

Unit	Element	Instructor/ ARN/ Date
8. Manage Abnormal Situations	Manage engine failure after take-off Manage engine failure elsewhere in circuit Perform forced landing Conduct precautionary search and landing	
9. Manage Fuel	Plan fuel requirements Manage fuel system Refuel aeroplane	
10. Control Aeroplane Solely by Reference to Full Instrument Panel	Perform manoeuvres	
11. Manage Passengers	Brief passengers Aid and assist passengers	
12. Navigate Aeroplane	Prepare chart and flight plan Comply with airspace procedures Conduct departure procedures Navigate aeroplane enroute Navigate at low level and in reduced visibility Perform lost procedure Perform diversion procedure Use radio navigation aids Execute arrival procedures	
13. Recover from Spin (optional)	Recover from spin	

I have completed the training specified in the elements, which have been certified on this Achievement Record.

……..
(Signature)

NAME:……**ARN**:……

DAY VFR SYLLABUS – COMMERCIAL PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD

Units and elements of competency that must be achieved prior to the Commercial Pilot Licence (Aeroplanes) flight test. All items must be demonstrated to standard 1 (CPLA standard). Each element must be certified as having been achieved at the specified standard by the instructor responsible for the assessment. The assessment for CPLA elements may not be made until all the elements in the PPLA phase have been completed.

Unit	Element	Instructor/ ARN/ Date
14. Manage Flight Administration	Complete pre and post flight actions Perform pre-flight inspection Perform and certify daily inspection	
15. Operate Radio	Use R/T equipment Maintain R/T equipment	
16. Control Aeroplane on the Ground	Start and stop engine Taxi aeroplane	
17. Take-off Aeroplane	Carry out pre-take-off procedures Take-off aeroplane Carry out after take-off procedures	
18. Control Aeroplane in Normal flight	Climb aeroplane Maintain straight and level flight Descend aeroplane Turn aeroplane Control aeroplane at slow speeds Perform circuits and approaches Comply with airspace requirements	
19. Land Aeroplane	Land aeroplane Perform mislanding procedures	
20. Execute Advanced Manoeuvres and Procedures	Enter and recover from stall Recover from incipient spin Turn aeroplane steeply Sideslip aeroplane Execute minimum ground roll take-off and landing	

NAME:……**ARN**:……..

DAY VFR SYLLABUS – COMMERCIAL PILOT LICENCE (AEROPLANES) ACHIEVEMENT RECORD (CONT)

Unit	Element	Instructor/ ARN/ Date
21. Manage Abnormal Situations	Manage engine failure after take-off Manage engine failure elsewhere in circuit Perform forced landing Conduct precautionary search and landing	
22. Manage Fuel	Plan fuel requirements Manage fuel system Refuel aeroplane	
23. Control Aeroplane Solely by Reference to Full Instrument Panel	Perform manoeuvres	
24. Manage Passengers	Brief passengers Aid and assist passengers	
25. Navigate Aeroplane	Prepare chart and flight plan Comply with airspace procedures Conduct departure procedures Navigate aeroplane enroute Navigate at low level and in reduced visibility Perform lost procedure Perform diversion procedure Use radio navigation aids Execute arrival procedures	
26. Control Aeroplane Solely by Reference to Limited Instrument Panel	Perform manoeuvres	
27. Recover from Spin (optional)	Recover from spin	

I have completed the training specified in the elements, which have been certified on this Achievement Record.

……..
(Signature)

SUBSECTION 3 – ASSESSMENT GUIDE FOR PRIVATE PILOT LICENCE AEROPLANES

INDEX TO UNITS OF COMPETENCY FOR PRIVATE PILOT QUALIFICATION **Page**

UNIT: 1. MANAGE PRE AND POST FLIGHT ACTIONS (PPL)

FLYING STANDARD

Elements	Performance Criteria
1.1 Complete pre and post flight administration	• Pre-flight planning and documentation is completed in accordance with regulations and/or operations manual. • Aeroplane take-off and landing performance is calculated in accordance with performance and weight and balance charts. • Pre and post flight maintenance release (Flight Technical Log) and flight administration is completed in accordance with regulations and/or operations manual. • Aeroplane serviceability is determined by daily inspection, and certification of daily inspection in maintenance release (Flight and Technical Log) is completed in accordance with regulations.
1.2 Perform pre-flight inspection	• Equipment and documentation as required by regulation is identified and secured in the aeroplane, and internal and external checks are completed in accordance with approved checklist.
1.3 Perform and certify daily inspection	• A daily inspection of aeroplane is performed in accordance with aeroplane system of maintenance approved by CASA and certified in accordance with regulations.

ASSESSMENT GUIDE

During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing standards.

The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Element	Evidence
1.1 Complete pre and post flight administration	Flight briefing is completed in accordance with operations manual. Pre-flight authorisation is confirmed. Conditions of authorisation are complied with. Prescribed flight details are recorded. Aeroplane serviceability is determined. Number of flying hours before next service is determined. Total hours flown are recorded. Aeroplane unserviceabilities are recorded. Maintenance release (Flight Technical Log) is checked to ensure aeroplane serviceability and currency of daily inspection. Flight authorisation encompasses requirements of flight. NOTAM, MET, ATC, aerodrome and airspace information is accessed and applied. Area and terminal meteorology forecasts are interpreted and applied. Aeroplane weight and balance is calculated. Take off and landing performance is calculated. Flight activities are modified to comply with applicable information issued. Elements of Airmanship: Attention to detail is applied.
1.2 Perform pre-flight inspection	Aeroplane Flight Manual/POH and route charts are secured in aeroplane. Equipment carried is suitable for aeroplane type and flight circumstances. Serviceability of aeroplane equipment is ensured. Safety and accessibility of aeroplane position is determined. Tie downs are removed and secured. Covers are removed and secured. External checks are completed in accordance with approved checklist. Internal checks are completed in accordance with approved checklist. Adjustments are made to harness, seat or rudder pedals. Equipment is secured. Elements of airmanship Ability is demonstrated to consistently perform pre flight administration and a pre flight inspection, overlooking no condition or detail which may compromise safety

UNIT: 1. MANAGE PRE AND POST FLIGHT ACTIONS (PPL)

Element	Evidence
1.3 Perform and certify daily inspection	Daily inspection is carried out in accordance with maintenance schedule or system of maintenance procedures before the first flight of each day, using applicable data. Daily inspection ensures that no defect or damage to the aeroplane could compromise safety of the operation. Maintenance release (Flight Technical Log) remains valid for period of intended flight. Serviceability of aeroplane is determined. Any endorsements, conditions or limitations on maintenance release can be complied with. Maintenance release (Flight Technical Log) is applicable to category of intended flight. Endorsements related to any Permissible Unserviceability (PUS) are entered into the maintenance release. No maintenance will fall due during proposed flight. Time in service is recorded in maintenance release in accordance with the relevant CAR/CASR. Maintenance Release (Flight Technical Log) is endorsed and certified after completion of daily inspection or approved maintenance in accordance with regulations. Elements of Airmanship: Attention to detail and thoroughness is evident in all actions.

UNIT: 2. OPERATE RADIO (PPL)

FLYING STANDARD

Elements	Performance Criteria
2.1 Use R/T equipment	• Transmission and receipt of R/T messages is carried out using English language in accordance with procedures and phraseology detailed in the FROL syllabus and Aeronautical Information Publications (AIP), and emergency and urgency transmissions and procedures are made in accordance with Enroute Supplement Australia (ERS(A) current edition) and AIP and all messages are reacted to appropriately.
2.2 Maintain R/T equipment	• R /T equipment failure procedures are performed in accordance with Flight Manual/POH. • Fault finding procedures and corrective actions not involving special tools or instruments are employed.

ASSESSMENT GUIDE

Element	Evidence
2.1 Use R/T equipment	Pre flight checks are completed in accordance with Flight Manual/POH. Serviceability of all required R/T equipment is checked. All radio control switches are used. The responsibilities of a radiotelephone operator are carried out. Standard air traffic radio transmissions are performed. Received instructions are complied with. Pilot transmitted information and phraseology is applicable to the flight phase. Traffic and alerting transmissions are recorded. Transmission “in the blind” is demonstrated. Over transmissions and clipped transmissions are avoided. Listening watch is maintained. Simulated transmission of urgency and distress messages is demonstrated. HF radio is tuned if applicable. Awareness of international distress frequencies is demonstrated. Radio silence is maintained when required. Ability is demonstrated to recognise carrier wave only' transmissions as a transmitting or receiving pilot and react to rectify the abnormal situation. Loss of radio transmission/reception procedure is performed. Comprehension of and reaction to light signals is demonstrated. The ability to communicate with Air Traffic Services and other aircraft, using the RT is demonstrated. <u>Elements of airmanship:</u> Standard phraseology is used to communicate, with recourse to colloquial language if unsure of standard phraseology for a particular situation.
2.2 Maintain R/T equipment	Fault finding procedures not involving special tools or instruments are employed. Minor faults are rectified. Meters and other means are used to indicate normal operation of equipment equipped with monitoring devices. Aeroplane R/T antenna systems are identified. Aeroplane battery positions and charging methods are described. Trailing aerial is tuned. Emergency communications equipment is operated. Knowledge of fuse positions, circuit breakers and emergency power switches is demonstrated. Procedures for conduct of routine pre-flight test of aeroplane R/T installation is followed.

UNIT: 3. CONTROL AEROPLANE ON THE GROUND (PPL)

FLYING STANDARD

Elements	Performance Criteria
3.1 Start and stop engine	• Pre-start and after start checks are completed in accordance with Flight Manual/POH. • Engine is started and shut down in accordance with Flight Manual/POH. • Emergencies are managed in accordance with Flight Manual/POH. • Pre-and after shutdown checks are completed in accordance with Flight Manual/POH.
3.2 Taxi aeroplane	• Taxi clearance is obtained and aeroplane is taxied in accordance with prevailing aerodrome conditions. • Effects of prevailing conditions are anticipated and allowed for. • Engine handling on the ground is in accordance with Flight Manual/POH and propeller care is exercised. • Approved marshalling signals are utilised.

ASSESSMENT GUIDE

Element	Evidence
3.1 Start and stop engine	Aeroplane is clear of obstructions, buildings and aircraft. Pre-start checks are completed in accordance with approved checklist. Propeller is cleared. Engine is primed in accordance with Flight Manual/POH procedures. Cold engine is started in accordance with approved checklist. Hot engine is started in accordance with approved checklist. Engine is hand started if applicable. After start checks are completed in accordance with approved checklist. Engine is operated within prescribed limits. Flooded carburettor or over primed fuel injection system is managed. Induction or engine fire is managed in accordance with approved checklist. Pre-shutdown checks are completed in accordance with approved checklist. Ignition switch safety check is completed. Engine is stopped in accordance with approved checklist. After shutdown checks are completed in accordance with approved checklist. <u>Elements of Airmanship:</u> Engine is operated within manufacturers limitations. Aeroplane is positioned with a view to safety and propeller care when starting engine. Mixture and carburettor heat controls are used correctly for the type of engine being operated. Manual starting safety procedures are complied with. Local and published noise abatement requirements and curfews are observed.

Element	Evidence
3.2 Taxi aeroplane	Clearance is obtained according to local air traffic procedures. Air Traffic Control (ATC) instructions are complied with. Brake checks are performed in accordance with approved checklist. Flight instrument checks are performed while taxiing. Turns in confined spaces are executed without incident. Nose wheel is held within 1.5 metres of centre line. Aeroplane nose is yawed to maintain forward visibility (tail wheel aeroplane). Tail wheel aeroplane is maintained within the taxiway limits. Tail skid and ailerons are used to turn aeroplane when applicable. Slipstream effect on rudder is used to assist turns when applicable. Aeroplane is steered using differential braking when applicable. Brakes and power are used to maintain taxi speed and are not used in opposition. Carburettor heat or ram air are not used in dusty conditions. Wind direction and speed is compensated for. Taxi speed is adjusted to suit aeroplane type, surface conditions, congestion, maintenance of control and to avoid collision with obstacles or other aircraft. Effect of ground slope is anticipated and countered. Ailerons are used to prevent wings from rising under crosswind conditions. Elevator is used to compensate for head or tail wind. Up elevator is used at high power (tail wheel aeroplane). Minimum power is used to maintain taxi speed. Engine instruments are monitored and reacted to. Carburettor heat is used to control icing. Potentially damaging objects are avoided. Minimum power is used to avoid propeller damage. Correct marshalling signals are complied with. Incorrect marshalling signals are recognised and ignored. Aeroplane speed and distance from obstacles enables avoidance of collision in the event of brake failure. Steering failure is managed by use of speed, distance, brakes or reverse thrust. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Surface traffic conditions are recognised and accommodated. Different aeroplane types are recognised. Adverse effect of propeller slipstream on other aeroplanes, aerodrome facilities and personnel is avoided. Inspection of taxi path is carried out when surface conditions are obscured. Right of way procedures are complied with. Local and published noise abatement requirements and curfews are observed.

UNIT: 4. TAKE OFF AEROPLANE (PPL)

FLYING STANDARD

Elements	Performance Criteria
4.1 Carry out pre-take-off procedures	• Pre take-off checks are completed in accordance with approved checklist. • Aeroplane is lined up in the centre of the runway in take off direction and line up checks are carried out in accordance with approved checklist.
4.2 Take-off aeroplane	• Take off power is applied, aeroplane is maintained aligned with centre of runway with wings maintained level and rotated at manufacturers recommended speed to achieve planned climb performance. • Aeroplane is configured for nominated climb profile and tracking on centreline of runway is maintained.
4.3 Carry out after take-off procedures	• After take-off checks are performed from memory in accordance with approved checklist.

ASSESSMENT GUIDE

Element	Evidence
4.1 Carry out pre-take-off procedures	Safety briefing is performed. Pre take off checks are completed in accordance with approved checklist. ATS instructions are complied with. Aeroplane is aligned with centre line in take off direction. Aeroplane is positioned as close to the start of the runway as possible. Line up checks are performed in accordance with approved checklist.
4.2 Take-off aeroplane	Brakes are released. Take off power is smoothly and fully applied. Aeroplane direction is maintained on runway. Excessive pressure on nose wheel is avoided. Yaw is controlled. Flight and engine instruments are checked and reacted to during take off roll. Aeroplane is rotated at recommended speed (+ 5 -0 kts). At a safe height undercarriage is retracted (if applicable). Aeroplane is accelerated to nominated climb speed appropriate to obstacle clearance requirements. Flaps are retracted at safe height if applicable. Climb is established at nominated speed (± 5 knots). Climb power is set (± 50 RPM, ± 1.0" MAP). Heading is adjusted to maintain track along extended runway centre line. *Perform crosswind take off* Applicable checks are performed in accordance with aeroplane checklist. Aeroplane is lined up on centre line of runway. Aeroplane is positioned as close to the start of the runway as possible. Into wind aileron is raised. Line up checks are performed. Brakes are released. Take off power is smoothly applied. Aeroplane direction is maintained on runway. Light pressure is maintained on nose wheel. Wings are maintained level with aileron as speed increases. Yaw is controlled. Flight and engine instruments are checked and reacted to on take off roll. Aeroplane is positively rotated at recommended speed (+5 –0 kts). Drift is countered by adjusting heading and aeroplane is tracked along runway centre line. Aeroplane is balanced. Undercarriage and flaps are retracted at a safe height if applicable. Aeroplane is accelerated to nominated climb speed (± 5 kts) appropriate to obstacle clearance requirements. Climb power is set (± 50 RPM ± 1.0" MAP). After take off checks are performed. Elements of Airmanship: Local and published noise abatement requirements and curfews are observed.
4.3 Carry out after take-off procedures	After take off checks are completed at a safe altitude from memory in accordance with approved checklist. Elements of Airmanship: Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Awareness of all circuit traffic is maintained. Different aeroplane types are recognised. R/T listening watch is maintained and instructions complied with. Local and published noise abatement requirements and curfews are observed.

UNIT: 5. CONTROL AEROPLANE IN NORMAL FLIGHT (PPL)

FLYING STANDARD

Elements	Performance Criteria
5.1 Climb aeroplane	• Attitude and power are adjusted to achieve an increase of altitude at normal, maximum rate (V_y), maximum angle (V_x) and cruise conditions of flight during straight and turning manoeuvres whilst maintaining the aeroplane in balanced flight. • Aeroplane is levelled off from climb at nominated altitude.
5.2 Maintain straight and level flight	• Attitude and power are adjusted to achieve a constant height, heading and speed whilst in balanced flight and at nominated speeds and aeroplane configurations.
5.3 Descend aeroplane	• Attitude and power are adjusted to achieve a decrease in altitude during glide, and power assisted flight at a nominated speed or rate of descent during straight and turning flight manoeuvres whilst in different aeroplane configurations and maintaining balanced flight. • Aeroplane is levelled from a descent at a nominated altitude.
5.4 Turn aeroplane	• Airspace cleared procedure is carried out. • Heading is altered in balanced flight during level, climbing, descending and gliding manoeuvres and turns are performed at varying rates to achieve specified tracks. • Turn on to nominated heading or geographical feature is achieved.
5.5 Control aeroplane at slow speed	• Pre manoeuvre checks are completed. • Aeroplane is flown at minimum clean approach speed and at minimum landing configuration approach speed as specified in Flight Manual/POH in balanced flight. • Full power is applied and attitude and balance adjusted to achieve nominated speed in excess of 1.5 V_s, whilst maintaining height.
5.6 Perform circuits and approaches	• Traffic patterns are conducted in accordance with AIP procedures appropriate to the aeroplane type with allowance for wind velocity on all legs of the circuit, completing all checklists and radiotelephone procedures and intercepting and maintaining the approach path applicable to the aeroplane type, whilst remaining clear of other traffic. • When traffic conflict or adverse flight conditions arise, these conditions are recognised and a go around is performed from any position in the traffic pattern.
5.7 Comply with airspace requirements	• Aeroplane is maintained within a specified area, whilst complying with air traffic requirements, controlled or restricted airspace conditions or limitations and reacting to factors that affect the safe progress of the flight.

UNIT: 5. CONTROL AEROPLANE IN NORMAL FLIGHT (PPL)

ASSESSMENT GUIDE

Elements	Evidence
5.1 Climb aeroplane	Climb power is set (±50 RPM, ± 1.0" MAP). Climb nose attitude is selected. Wings are parallel to the horizon. Aeroplane is balanced. Aeroplane is trimmed when IAS is stabilised. Direction is maintained (±10°). Instruments are used to confirm performance. Manifold pressure is maintained as altitude is increased. IAS for maximum rate of climb is maintained (+5 -0 knots). IAS for maximum angle of climb is maintained (+5 -0 knots). IAS for cruise climb is maintained (± 5 knots). Forward visibility is maintained. Engine temperature is monitored and reacted to. Level off altitude is anticipated. Nose attitude is adjusted to terminate climb. Aeroplane is accelerated to cruise speed while maintaining altitude (± 150 feet). Straight and level nose attitude is selected when IAS stabilises. Direction is maintained (±10°). Cruise power is set (± 50 RPM ±1.0" MAP). Aeroplane is balanced. Aeroplane is trimmed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Nose of aeroplane is cleared to ensure forward visibility; Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.
5.2 Maintain straight and level flight	Straight and level nose attitude is established at nominated power at determined altitude. Wings are parallel to the horizon. Aeroplane is trimmed. Aeroplane is balanced. Straight and level nose attitude is maintained at cruise power (± 150 feet, ±10 knots of nominated speed) (± 50 RPM ±1.0" MAP). Wings are kept parallel to the horizon to maintain direction (± 10°). Aeroplane is trimmed. Performance is confirmed by use of instruments. Aeroplane natural stability is demonstrated. Aeroplane is balanced by use of rudder. Rudder is trimmed if applicable to aeroplane type. Straight and level flight is maintained at various power settings. Aeroplane is balanced at varying power and speed. Aeroplane is re trimmed for varying power and speed. Performance is confirmed by use of instruments. Straight and level flight is maintained with flap selected. Straight and level flight is maintained with undercarriage selected down. Aeroplane is trimmed for each configuration. Performance is confirmed by use of instruments. Aeroplane is balanced when power is altered. Pitch is controlled when power is changed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Natural horizon is used as primary attitude reference. Height is maintained within allocated height band.

UNIT: 5. CONTROL AEROPLANE IN NORMAL FLIGHT (PPL)

ASSESSMENT GUIDE

Elements	Evidence
5.3 Descend aeroplane	*Glide descent:* Carburettor heat is applied as required. Idle power is selected for glide descent. Aeroplane is balanced. Nose attitude is selected to maintain descent IAS (±10 knots). Aeroplane is trimmed. Direction is maintained (± 10°). Instruments are used for precision. Engine temperature is monitored and controlled. Engine is operated to minimise spark plug fouling. Sparking plugs are de fouled as required. Carburettor heat is used as required. *Cruise descent:* Cruise descent power is selected (± 50 RPM, ±1.0" MAP). Aeroplane is balanced. Nose attitude and power is selected to maintain cruise descent IAS (± 10 knots ±150 ft/min of nominated rate of descent). Aeroplane is trimmed. Direction is maintained. Instruments are used for precision. Level of altitude is anticipated and achieved (±150 ft). Glide and powered descents are performed with flap and undercarriage selected down. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Clearance ahead and below is maintained. ATC altitude restrictions are observed. Aeroplane does not exceed design limits during maximum rate descent. Situation awareness is maintained. Effects of undercarriage, flaps are managed.
5.4 Turn aeroplane	Airspace cleared procedure is carried out before all turns. Bank angle is increased to 30° for level turn. Nose attitude is adjusted to maintain altitude. Aeroplane is balanced. Altitude is maintained (± 150 feet). Constant angle of bank is maintained (±5°). *Climbing turn is performed:* Angle of bank does not exceed 20° in climbing turn (±5°). Climbing turn IAS is maintained (± 5 knots). *Descending turn is performed:* Descending turn IAS is maintained (± 10 knots). 30-degree angle of bank is maintained. Aeroplane is balanced. Rudder is used to counter yaw. *Gliding turn through 180 degree heading change is performed* and height loss is observed. Roll out from turn on to a specified direction or heading is performed (±10°). Wings are rolled level. Nose attitude is adjusted to maintain IAS. Aeroplane is balanced. <u>Elements of Airmanship:</u> Situation awareness is maintained. Lookout is maintained in direction of turn and above or below. Airspeed is maintained within airframe limitations. Engine operating limits are not exceeded. Carburettor icing is avoided.

UNIT: 5. CONTROL AEROPLANE IN NORMAL FLIGHT (PPL)

ASSESSMENT GUIDE

5.5 Control aeroplane at slow speed	Pre manoeuvre checks are completed without memory aids. Aeroplane is flown at minimum clean approach speed. The reduced effectiveness of controls is demonstrated. Aeroplane is flown at minimum flapped configuration approach speed. The airspeed indicator is monitored and reacted to. Audible and visual stall warnings are observed and reacted to. The reduced effectiveness of controls is managed. The effects of induced drag are managed. The slow speed configuration is recovered from using take off power to achieve nominated speed without loss of height (±10 kts ±150 ft). Aeroplane is balanced. <u>Elements of Airmanship:</u> Situation awareness is maintained. Height awareness is maintained.
5.6 Perform circuits and approaches	Drift is controlled by adjusting heading and aeroplane is tracked along extended runway centre line. Climb is established. Climbing turn onto cross wind leg is performed (15° ±5° bank). Aeroplane is established on cross wind leg. Allowance is made for drift. Aeroplane is levelled off at circuit height (± 100 feet). Applied judgment is used to turn aeroplane onto downwind leg (± 10°). Adjustment is made to circuit to ensure safe spacing with preceding traffic. Correct distance from runway centre line maintained. Altitude on downwind leg is maintained (± 100 feet). Pre landing checks are performed in accordance with checklist. Radio used to report position and intentions. Applied judgment is used to turn on to base leg to intercept acceptable approach path. Allowance is made for drift. Acceptable approach path is established. Approach speed is maintained (+10 -0 knots). Acceptable approach path on base leg is maintained. Applied judgment is used to turn onto final approach leg. Aeroplane is aligned with and tracking runway centre line. Aiming point is identified and selected. Applicable approach path angle is established. Designated approach air speed is maintained (+10-0 knots). Track along extended runway centre line is maintained. Coordinated use of power and nose attitude are applied to control approach path angle and speed. Allowance is made for wind gusts and turbulence. Normal approach is performed. Glide approach is performed. Flapless approach is managed and performed. Final approach checks are completed in accordance with approved checklist. *Go around from base leg is initiated.* Take off power is applied. Climb is established. Flaps and undercarriage are retracted if selected down, in the correct sequence. Radio is used to advise ATC. After take off checks are performed. Aeroplane is turned on to final leg and another circuit completed. *Go around from final approach leg is initiated*. Take off power is applied. Climb is established. Flaps and undercarriage are retracted in the correct sequence, if selected down. Radio is used to advise ATC. After take off checks are performed. Additional circuit is completed. <u>Elements of Airmanship:</u> Situation awareness is maintained. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Right of way rules are applied and complied with. Radio listening watch is maintained. Weather conditions are monitored. Fuel status is monitored. Local and published noise abatement requirements and curfews are observed.

UNIT: 5. CONTROL AEROPLANE IN NORMAL FLIGHT (PPL)

ASSESSMENT GUIDE

Elements	Evidence
5.7 Comply with airspace requirements	Geographical limits of the designated area are demonstrated on a chart. Prominent geographical features are identified using a chart. The limits of the designated area are identified on the ground. The position of controlled airspace is determined using a chart and geographical features. Restricted areas are identified using a chart and geographical features. Departure from the circuit area and transition to the designated area is completed without incident. Departure from the designated area and transition to the circuit area is completed without incident. <u>Elements of Airmanship:</u> Awareness of aeroplane position is maintained using charts and geographical features. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Radio listening watch is maintained and information received is acted upon. Weather conditions are monitored and reacted to. Fuel status is monitored and reacted to. Orientation by geographical features is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 6. LAND AEROPLANE (PPL)

FLYING STANDARD

Elements	Performance Criteria
6.1 Land aeroplane	• Aeroplane is landed at a controlled rate of descent, aligned with and above the runway centreline, within a specified area, without drift, maintaining directional control, and stopping within the available runway length. • Ballooning and bouncing are minimised and controlled. • After landing checks are performed in accordance with approved checklist.
6.2 Perform mislanding procedure	• Decision to perform mislanding is made when landing standards cannot be achieved. • Control of aeroplane is maintained and circuit is performed.

ASSESSMENT GUIDE

Element	Evidence
6.1 Land aeroplane	Aiming point is selected and identified. Rate of descent is reduced at a height above runway suitable for the aeroplane type. Power is reduced to idle prior to touchdown. Directional control is maintained during roundout with use of rudder. Lateral control is maintained during roundout using ailerons. Ballooning is recognised and controlled prior to touchdown. Touchdown is achieved within 400 feet (120 metres) beyond nominated touchdown point. Aeroplane is landed on main wheels with nose wheel clear of ground (nose wheel aeroplane). Aeroplane is landed simultaneously on main wheels and tail wheel (tail wheel aeroplane). Controlled rate of descent at touchdown is achieved. Bouncing is recognised and controlled after touch down. Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). Aeroplane direction on ground is controlled. Nose wheel contact with runway is controlled. Aeroplane brakes are used to slow aeroplane. Aeroplane is stopped within runway length. Wheel landing in tail wheel aeroplane is performed. After landing checklist is completed. *Land in a cross wind:* Applicable flap is selected for crosswind conditions. Aeroplane is tracked along runway centre line. Rate of descent is arrested at the height above runway applicable to aeroplane type. Power is reduced to idle. Direction is controlled using rudder. Lateral control is maintained using ailerons. Ballooning is recognised and controlled prior to touchdown. Crabbing approach technique-nose is aligned with centre line before touchdown on main wheels, ensuring aeroplane is not drifting. Wing down technique-aeroplane is landed on the into wind main wheel, ensuring aeroplane is not drifting. Touchdown is achieved within 400 feet (120 metres) beyond nominated touchdown point. Controlled rate of descent on touchdown is achieved. Bouncing is recognised and controlled after touch down. Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). Ailerons are used to prevent wing rise. Aeroplane direction on ground is controlled. Nose wheel contact with runway is controlled. Brakes are used without lockup to slow aeroplane. Aeroplane is stopped within runway length. After landing checklist is completed. Ability is demonstrated to land aeroplane in crosswind conditions or conduct a mislanding and complete an alternative plan. Elements of Airmanship: Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Awareness of conflicting air traffic is maintained. Conflict is avoided with aeroplanes using into wind runway. Runway is vacated when practicable. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 6. LAND AEROPLANE (PPL)

ASSESSMENT GUIDE

Element	Evidence
6.2 Perform mislanding procedures	Aeroplane is controlled. Take off power is applied. Aeroplane direction is controlled on ground. Aeroplane lift off from runway is at lift- off IAS (+10 -0 kts). Runway direction is maintained. Climb is established. Flaps and undercarriage are retracted in the correct sequence, if selected down. Radio is used to advise ATC of pilot's intentions. After take off checks are performed. Elements of Airmanship: Windsock and other indicators are used to determine wind velocity. Allowance for wind velocity is made during landing. Runway is unobstructed. Go-around is initiated on mislanding. Radio listening watch is maintained. Weather conditions are monitored. Wake turbulence is avoided. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

FLYING STANDARD

Elements	Performance Criteria
7.1 Recover from stall	• Pre-manoeuvre checks are completed. • Aeroplane attitude and power settings are adjusted to resume normal balanced flight on advent of stall. • Height loss is consistent with aeroplane type.
7.2 Recover from incipient spin	• Pre manoeuvre checks are completed. • Recovery at incipient spin stage (stall with wing drop) is performed and. controlled flight is resumed. • Recovery at incipient spin stage during a turn is performed and controlled flight is resumed.
7.3 Turn aeroplane steeply	• Air space cleared procedure is carried out. • Level turn of nominated bank angle is achieved without altitude change. • Descending turn of nominated bank angle is achieved to a nominated heading or geographical feature through a minimum of 500 feet height loss. • Recovery is made from spiral dive.
7.4 Sideslip aeroplane	• Pre-manoeuvre checks are performed. • Slip is induced to achieve increased rate of descent while maintaining track and airspeed. • Turn through minimum track change of 90° at constant airspeed using sideslip. • Recovery from sideslip is achieved and aeroplane is returned to balanced flight.
7.5 Execute short take-off and landing	• Take off performance is calculated in accordance with performance chart. • Pre-take-off checks are performed in accordance with approved checklist. • Aeroplane is lined up to enable use of maximum runway length. • Line up checks are performed in accordance with approved checklist. • Take off power is achieved before brakes (where fitted) are released and aeroplane is rotated at recommended speed, and nominated climb speed appropriate to obstacle clearance requirements is achieved. • After-take-off checks are performed from memory in accordance with approved checklist. • Landing performance is calculated in accordance with performance chart. • Aeroplane is landed at nominated touch down point +200 ft (60 metres) at minimum speed and maximum braking is applied. • Ballooning and bouncing are controlled. • After-landing checks are performed in accordance with approved checklist.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

ASSESSMENT GUIDE

Elements	Evidence
7.1 Recover from stall	Pre manoeuvre checks are completed from memory. Airspace is cleared. Height is maintained above the minimum safe altitude to perform stalls. Awareness of minimum height requirement is demonstrated. RPM is set full fine. Mixture set rich. Carburettor heat set hot. Power is reduced to idle. Aeroplane is balanced. Altitude is maintained as IAS decreases. Control column is moved rearwards. Increasing nose attitude is observed. Effect of airframe buffet is observed and felt through control column. Instrument indications are monitored. Decreased effectiveness of controls is observed. The ineffectiveness or reversal effect of ailerons is demonstrated. Visual or aural stall warning indicators are observed. At the stall, speed is noted and stick/control column position is observed. At the point of stall departure from intended flight path is observed. Stall with power applied is achieved. Stall with flaps selected is achieved. Stall with undercarriage extended is achieved (if applicable). Stall while aeroplane is climbing is achieved. Stall while aeroplane is descending is achieved. Stall while aeroplane is turning is achieved. Stall while aeroplane is in approach configuration is achieved. *Recovery is made from stall using power.* Wing drop is prevented by using rudders to control yaw. Recovery is achieved by unstalling the wings using the elevators, and simultaneously applying full power. Wings are maintained parallel to horizon using ailerons. Height loss is observed. *Recovery is made from stall without using power.* Recovery is achieved by unstalling the wings using the elevators. Nose attitude is adjusted to achieve best gliding speed. Height loss is observed. *Recovery is made from stall during a turn.* Stall is recognised when aeroplane departs from intended flight path. Recovery from stall during turn is achieved by unstalling the wings using the elevators and simultaneously applying full power. Aeroplane is balanced. When unstalled, ailerons are used to control angle of bank. <u>Elements of Airmanship:</u> Awareness of height loss is maintained. Lookout above and below is maintained during all manoeuvres. Minimum height limit is observed. Local and published noise abatement requirements and curfews are observed.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

ASSESSMENT GUIDE

Elements	Evidence
7.2 Recover from incipient spin	*Incipient spin is entered:* Pre manoeuvre checks are completed from memory. A safe altitude is selected. Airspace is cleared. Power is reduced. Height is maintained as airspeed decreases. Wing drop is induced by use of rudder prior to or at point of stall. Incipient spin is entered. *Recover from incipient spin.* Opposite rudder is applied to prevent further yaw. Wings are unstalled by using elevators. Ailerons are used to parallel wings to horizon. Aeroplane is recovered from dive. Full power is applied as nose approaches horizon. *Recover from a stall during a turn.* Speed is allowed to reduce in a level, climbing or descending turn. The effect of a stall during a turn is demonstrated. Recovery is made from a stall in a turn. Elements of Airmanship: Situation awareness is maintained Pre manoeuvre checks are completed without aid to memory. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Operations are performed above the legal minimum altitude. Aeroplane and engine limitations are observed.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

ASSESSMENT GUIDE

Elements	Evidence
7.3 Turn aeroplane steeply	*Enter and maintain a level steep turn:* Airspace cleared procedure is followed. Angle of bank is increased to 45 or 60 degrees (± 10°). Nose attitude is adjusted to maintain altitude (± 150 feet). Slip and skid are balanced with rudder. Power is increased to maintain nominated IAS (±10 knots). Angle of bank and nose attitude are coordinated to maintain altitude. Engine temperature and carburettor heat are monitored and reacted to. Awareness of increased stalling speed is demonstrated. *Enter and maintain a descending steep turn:* Airspace ahead and below is cleared. From a descent, angle of bank is increased to 45 or 60 degrees. Nose attitude is adjusted to maintain descent IAS (± 10 knots). Slip and skid are balanced with rudder. Angle of bank and nose attitude are coordinated to maintain descent IAS. Engine and carburettor temperature are monitored. Awareness of increased stalling speed is demonstrated. *Recover from level steep turn:* Heading or geographical roll out feature is anticipated. Wings are rolled parallel to horizon. Nose attitude is adjusted to maintain altitude. Slip and skid are balanced with rudder. Power is reduced to maintain IAS. *Recover from descending steep turn:* Heading or geographical roll out feature is anticipated. Wings are rolled parallel to horizon. Nose attitude is adjusted to maintain descent IAS. Slip and skid are balanced with rudder. Engine temperature is monitored and managed. *Recover from a spiral dive:* Throttle is closed. Wings are rolled parallel to horizon. Nose of aeroplane is smoothly and positively raised to horizon. Power is set as required. *Recover from a stall during a steep turn:* Stall during steep turn is recognised when aeroplane departs from intended flight path. Backpressure is released from control column to unstall wing. Take off power is applied. Wings are rolled parallel to horizon using ailerons. Aeroplane is balanced. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique in direction of turn and below. Awareness of higher stall speed in turns is demonstrated. Collision with terrain is avoided. Aeroplane 'g' limits are not exceeded.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

ASSESSMENT GUIDE

Elements	Evidence
7.4 Sideslip aeroplane	Airspace is cleared ahead and below. Wing is lowered during a glide. Opposite rudder is applied to prevent turn. Elevators are used to adjust nose attitude to maintain glide IAS (+10 -5 knots). Ailerons are used to maintain bank angle. Rate of descent is adjusted by coordinating angle of bank and applied rudder. Flight instruments are monitored. Carburettor air and engine temperatures are monitored. *Recover from sideslip:* Recovery height is anticipated. Wings are rolled parallel to horizon using ailerons. Yaw is controlled with rudder. Control column is moved to maintain glide IAS. *Perform sideslipping turn and recover:* Airspace is cleared around and below. Whilst in a gliding turn opposite rudder is applied to cause the aeroplane to sideslip. Turn and descent rates are controlled by coordinating angle of bank and use of rudder. IAS is controlled with elevator. Engine temperature is monitored. Roll out feature or heading, and height is anticipate. Wings are rolled parallel to horizon. Yaw is controlled with rudder. Nose attitude is adjusted with control column to maintain glide speed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Glide speed is maintained. Functions of fuel system are monitored. Situation awareness is maintained. Aeroplane limitations are known and not exceeded. Local and published noise abatement requirements and curfews are observed.

UNIT: 7. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (PPL)

ASSESSMENT GUIDE

Elements	Evidence
7.5 Execute short take-off and landing	Take off and landing performance is calculated using authorised charts. Pre take off checks are performed in accordance with approved checklist. Flap setting required for minimum ground roll take off is selected. Aeroplane is lined up utilising maximum runway length available. Line up checks are performed in accordance with approved checklist. *Perform short take-off:* Brakes are applied. Stick is held full back (tail wheel aeroplane). Take off power is applied. Brakes are released. Direction on runway is maintained. Aeroplane is rotated at recommended speed and nominated climb speed appropriate to obstacle clearance requirements is achieved. Normal circuit is completed. *Perform short take-off from soft surface:* Brakes are applied. Control column is held fully back. Take off power is applied. Brakes are released. Direction on runway is maintained. Aeroplane is lifted off at minimum possible IAS. (+5 -0 knots). Aeroplane is allowed to accelerate. Aeroplane is climbed at best angle or rate of climb as appropriate for obstacle clearance requirements. After take-off checks are performed by memory in accordance with checklist. *Short landing:* Aiming point is selected. Approach speed is maintained (+5 -0 kts) (calculated from take off and landing chart). Approach path is maintained. Rate of descent is reduced at height above runway suitable for aeroplane type. Power is reduced to idle. Touchdown is achieved at minimum speed without drift, ballooning or bouncing within 200 (60 metres) feet beyond a nominated touchdown point. Touchdown is achieved on main wheels (tricycle undercarriage). Touchdown is achieved on main wheels and tail wheel (tail wheel aeroplane). Aeroplane is landed on and aligned within 2 metres of runway centre line. Aeroplane direction on ground is controlled. Maximum rate braking is applied. Aeroplane is stopped within calculated runway length. <u>Elements of Airmanship:</u> Windsock and other indicators are used to determine wind velocity. Allowance for wind velocity and turbulence is made during approach and landing. Situation awareness is maintained. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Surface conditions are allowed for. Runway is vacated as soon as practicable. Local and published noise abatement requirements and curfews are observed.

UNIT: 8. MANAGE ABNORMAL SITUATIONS (PPL)

FLYING STANDARD

Elements	Performance Criteria
8.1 Manage engine failure after take-off	• Immediate actions are performed in accordance with Flight Manual/POH. • A landing area within gliding distance is selected, emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed.
8.2 Manage engine failure elsewhere in circuit	• Immediate actions are performed in accordance with Flight Manual/POH • A landing area within gliding distance, on the aerodrome or elsewhere**,** is selected. • Emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed if the engine cannot be restarted.
8.3 Perform forced landing	• Immediate actions are performed in accordance with Flight Manual/POH. • Landing area within gliding distance is selected, all emergency checks are performed in accordance with the Flight Manual/POH, and if an engine restart is not achieved a controlled landing is performed.
8.4 Conduct precautionary search and landing	• Air Traffic Services are advised of intentions if possible. • Landing area is selected and inspected for approach, landing distance and surface, and overshoot clearance and aeroplane is landed.
8.5 Manage abnormal situations	• Abnormal situation involving fuel, electrical, airframe, flight instrument, flight control, engine or radio/navigation aid systems, fire, smoke, fumes and ditching are identified. • Appropriate emergency procedures are conducted in accordance with Flight Manual/POH and published procedures while maintaining control of the aeroplane.

ASSESSMENT GUIDE

Elements	Evidence
8.1 Manage engine failure after take-off	Nose is immediately lowered to maintain best gliding speed (+10 -0 Kts). Aeroplane is balanced. Suitable landing area is selected. Turns are minimised. Undercarriage and flaps are lowered as required. Emergency procedures are conducted in accordance with approved checklist. Radio is used to advise of emergency. Passengers are briefed about flight situation, brace position and harness is security. Engine shutdown checks are completed in accordance with approved checklist. Aeroplane is landed. Elements of Airmanship: Action plan is determined for an engine failure after take off. Action plan includes not turning back towards airfield after engine failure unless above a safe altitude.
8.2 Manage engine failure elsewhere in circuit	Glide attitude is immediately selected (+10 -0 knots). Aeroplane is balanced. Aeroplane is trimmed. Suitable landing area is selected. Wind strength is considered when selecting landing area. A landing area is selected on the aerodrome from any leg of the circuit if height is sufficient. Immediate actions are completed. Radio is used to advise of emergency and pilots intentions. Passengers are briefed about flight situation and bracing position and harness secured. Trouble checks are conducted in accordance with approved checklist procedures. Engine restart is attempted if height is sufficient. Undercarriage and flaps are lowered when landing is assured. Shutdown checks are performed in accordance with approved checklist procedures. Aeroplane is landed. Aeroplane is vacated expeditiously. Elements of Airmanship: Awareness of potential forced landing areas in aerodrome vicinity is demonstrated. Awareness of height loss requirement to complete 180 degree gliding turn is maintained. Action plan complies with established procedures.

UNIT: 8. MANAGE ABNORMAL SITUATIONS (PPL)

ASSESSMENT GUIDE

Elements	Evidence
8.3 Perform forced landing	Excess speed is used to maintain height. Perform immediate actions. Glide attitude is selected. Aeroplane is balanced. Aeroplane is trimmed. Surface wind direction and strength is established. Suitable landing area is selected. Plan is formulated. Approach path is controlled to ensure a safe landing is achieved in the nominated landing area. Forced landing pattern is executed and modified as required. Trouble checks are performed in accordance with aeroplane check list. Emergency is declared to ATC/ATS/other aeroplanes detailing position and intentions and emergency transponder code is selected. Engine restart is attempted if the possibility of a successful start is evident. If engine will not start, shutdown checks are performed in accordance with approved checklist. Passenger are briefed about the situation, brace position and harness is secure. Plan is modified to adapt to changed conditions. Flaps and undercarriage are lowered as required. Aeroplane is vacated expeditiously after landing. ATC/other aircraft are advised of situation. Elements of Airmanship: Plan is made and modified as circumstances change. Any unavoidable obstructions are contacted when the aeroplane is on the ground (rather than while airborne). Passengers are briefed and managed.
8.4 Conduct precautionary search and landing	Decision to conduct precautionary landing is made before conditions deteriorate to an unsafe stage. Pre descent checks are performed. ATC is advised using an 'URGENCY' call (PAN). Aeroplane is set up in bad visibility configuration if applicable. Suitable landing area is selected. Wind direction and strength is observed. Length of landing area is confirmed by visual assessment or timing. Circuit is conducted at 500 feet or 100 feet below cloud. Turning points for circuit are selected in bad visibility. Landing strip is flown over at 100 feet and to the right or directly over the landing strip depending on the forward visibility from the aircraft type and surface condition is assessed. Any obstacles on the approach and overshoot are observed and avoided. Landing surface is checked for any hazards. Overshoot and climb to circuit height is conducted. Second circuit is conducted keeping the field in sight. Dummy approach is completed rechecking surface and drift. Final circuit is completed and aeroplane is landed according to prevailing conditions with a short landing if applicable. ATC/other aeroplane are advised of present situation and intentions. Aeroplane is secured. Elements of Airmanship: Decision to perform precautionary landing is made within time, light, weather or fuel constraints. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Collision with terrain is avoided. Situation awareness is maintained.
8.5 Manage abnormal situations	Abnormal situations are identified and confirmed. Control of aeroplane is maintained. Emergency procedures are conducted in accordance with Flight Manual or POH. Any applicable published emergency procedures are conducted. ATC/other stations are advised of present situation, intentions and assistance required. Elements of Airmanship: Approved Flight Manual/POH and published procedures are consistently applied. Situation awareness is maintained. Standard procedures are always used.

UNIT: 9. MANAGE FUEL (PPL)

FLYING STANDARD

Elements	Performance Criteria
9.1 Plan fuel requirements	• Duration of flight is determined. • Fuel reserve requirement is determined according to regulation. • Total fuel requirement is determined according to regulation.
9.2 Manage fuel system	• Fuel system is operated in accordance with Flight Manual/POH. • Fuel requirements are revised as circumstances change. • Aeroplane is configured to achieve best range. • Aeroplane is configured to achieve best endurance.
9.3 Refuel aeroplane	• Aeroplane is refuelled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

ASSESSMENT GUIDE

Elements	Evidence
9.1 Plan fuel requirements	Fuel required for duration of flight is calculated (+5 -0 minutes). Mandatory fuel reserve is calculated. Fuel allowance is made for icing conditions. Fuel allowance is made for diversion to an alternate aerodrome when forecast meteorological conditions are below alternate minima. Fuel allowance is made for holding or diversions during periods of 'intermittent' (INTER) or 'temporary' (TEMPO) deterioration of weather conditions below alternate minima. Fuel allowance is made for ATS routing, departure and arrival procedures which are anticipated. Fuel allowance is made for pressurisation failure if applicable. Fuel log is prepared for navigation. Any necessary additional fuel reserves are calculated. Total fuel required for flight and all reserves is calculated. Fuel planning is revised as flight circumstances change before or during flight. <u>Elements of Airmanship:</u> Contingencies are anticipated. Correct grade of fuel is used. Situation awareness is maintained.

UNIT: 9. MANAGE FUEL (PPL)

ASSESSMENT GUIDE

Elements	Evidence
9.2 Manage fuel system	Fuel system configuration is identified and controlled according to Flight Manual/POH. Fuel tank selection is applicable to the phase of flight. Fuel selector switch is positioned to ensure delivery of fuel to engine. Fuel boost/auxiliary pumps are used on take-off, landing and as required in Flight Manual/POH. Mixture control is used for economic and efficient flight. Carburettor heat is used only when required. Fuel cross feed is used to balance aeroplane if applicable. Fuel contents and flow are monitored. Fuel usage is recorded. Fuel caps are securely fastened after refuelling. Fuel drain cocks are confirmed closed. *Aeroplane is configured to achieve best range:* Total fuel remaining is recorded. Revised range is calculated. Most appropriate altitude is selected to achieve best range. Power setting to achieve best range is established (± 50 RPM ± 1.0"MAP). Best range speed is established. Mixture is leaned to optimum setting. Carburettor heat set to prevent icing. *Aeroplane is configured to achieve best endurance:* Total fuel remaining is recorded. Revised endurance is calculated. Most appropriate altitude is selected to achieve best endurance. Power setting to achieve best endurance is established (± 50 RPM ± 1.0"MAP). Best endurance speed is achieved (+5 -0 knots) and control of aeroplane maintained. Mixture is leaned to optimum setting. Carburettor heat set to prevent icing. <u>Elements of Airmanship:</u> Fuel contents are visually inspected and quantities confirmed before flight. Fire hazard precautions are observed. Occupational Health & Safety (OH&S) procedures are followed. Potential hazards are anticipated and minimised. Actions are performed to ensure personnel and property safety.
9.3 Refuel aeroplane	Refuelling procedures and safety precautions are identified. Minimum safety distance requirements between aeroplane and buildings, refuelling and electrical equipment are complied with. Fire hazards are removed. Fire extinguisher is available. Fuel contamination and water checks are completed. Correct grade of fuel is used. Grounding procedures are followed. Fuel caps are securely fastened after refuelling. Fuel drain cocks are confirmed closed. <u>Elements of Airmanship:</u> Aeroplane is refuelled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

UNIT: 10. CONTROL AEROPLANE SOLELY BY REFERENCE TO FULL INSTRUMENT PANEL (PPL)

FLYING STANDARD

Elements	Performance Criteria
10.1 Perform manoeuvres	• Maintain straight and level flight, climb, descend, perform rate one turn, recover from unusual attitudes and resume controlled flight solely by reference to full instrument panel.

ASSESSMENT GUIDE

Elements	Evidence
10.1 Perform manoeuvres	*Before instrument flight:* Pitot/static systems are checked for serviceability and condition. Flight instruments are checked for condition and serviceability. Instrument power sources are checked. The attitude indicator pitch datum is set to the in-flight straight and level attitude appropriate for the aircraft type. Turn, heading and attitude indicators are functionally checked while taxiing. *During instrument flight:* Attitude indicator is used as primary control instrument for pitch and roll. Performance instruments are used with selective radial scan to confirm attitude. Other instruments and indicators are interrogated and reacted to appropriately. Applicable scan technique for straight and level stage of flight is used. Lag in performance instruments is anticipated and allowed for. Aeroplane is balanced. Timely instrument interrogation rate is practiced. Engine instruments are monitored and reacted to. Power and attitude are used to achieve performance (±50 RPM ±1.0" MAP). Straight and level flight is achieved at changing airspeed (±10 knots ±10° ±200 ft). Straight and level flight is achieved in different flight configurations. The change-check-hold-adjust-trim technique of instrument flying is utilised. *Additional evidence while climbing and descending during instrument flight:* Descent is performed at 500 feet per minute (±200 ft/min). Level off altitudes-are anticipated. *Additional evidence while performing turns during instrument flight:* Applicable selective radial scan technique for turns during straight and level, climbing and descending stages of flight is used. Rate one turns onto specific headings are completed (±10° ±200 ft). Turning and acceleration errors are compensated for when using magnetic compass. *Additional evidence while simulating unintentional entry into cloud:* Straight and level flight is maintained on full instrument panel. Present heading is observed and reciprocal heading calculated. Rate one turn onto reciprocal heading is performed. When on reciprocal heading, time is allowed to exit cloud. VFR are established. *Additional evidence while recovering from unusual attitudes:* Low or decreasing airspeed attitudes are compensated for by application of power and lowering of nose to horizon. High or increasing airspeed is corrected by reducing power, levelling wings parallel to horizon and raising nose to horizon. Attitude indicator is used as primary control instrument. Straight and level attitude is achieved without excessive oscillations at the horizon (± 250 ft of height at which aircraft nose first passed through horizon). Bank angle is corrected by paralleling wings to horizon using attitude indicator. Performance instruments are used to confirm attitudes. <u>Elements of Airmanship:</u> Adverse physiological sensations are accepted but ignored. All corrective control movements are smooth and excessive muscular force is avoided. Instrument power sources are checked for serviceability and monitored during flight. Heading instruments are synchronised before take-off and every 10 minutes during flight.

UNIT: 11. MANAGE PASSENGERS (PPL)

FLYING STANDARD

Elements	Performance Criteria
11.1 Brief passengers	• Passengers are briefed before flight and in emergencies in accordance with regulations, orders and operations manual.
11.2 Aid and assist passengers	• Passenger comfort and wellbeing is provided for within the limits of aeroplane safety. • Passengers are controlled on the ground and in the air in accordance with regulations, orders and operations manual.

ASSESSMENT GUIDE

Elements	Evidence
11.1 Brief passengers	Passengers are briefed on details of the flight. Procedures to avoid interference with flight controls are explained. Smoking requirements are explained. Secure stowage of hand luggage is demonstrated. The use of flotation devices is demonstrated where applicable. Operation of doors and escape hatches is demonstrated. Securing and release of safety harness is demonstrated. Use and location of fire extinguishers is explained. Use of oxygen equipment is demonstrated if applicable. Use of safety equipment is demonstrated. Passengers are briefed on emergency procedures on the ground and in the air.
11.2 Aid and assist passengers	Use of fresh air vents is demonstrated. Position of airsickness bags is demonstrated. Control of passengers is exercised on the ground and in the aeroplane. Passengers are managed in an emergency. Cabin temperature is controlled. <u>Elements of Airmanship:</u> Clear communication is established and maintained with passengers. Passenger safety and well being is ensured. Situation awareness is maintained.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

FLYING STANDARD

Elements	Performance Criteria
12.1 Prepare chart and flight plan	• Charts suitable for the intended flight are selected and prepared. • Applicable information is obtained, analysed and applied to produce a flight plan that details tracks, distances, times and fuel requirements to reach a destination.
12.2 Comply with airspace procedures	• Air traffic clearances are obtained and complied with. • Airspace procedures are complied with.
12.3 Conduct departure procedures	• Pre flight planning and cockpit organisation is used to ensure charts, documentation and navigational calculator are accessible from the control seat. • Track is intercepted within 5 nautical miles of airfield and departure time is recorded.
12.4 Navigate aeroplane enroute	• Planned route is maintained, In flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and, pre descent or navigation turning point checks are executed.
12.5 Navigate at low level and in reduced visibility	• Pre descent or navigation turning point checks are executed and VFR is maintained, planned route is maintained, in-flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and a safe alternate plan is formulated and applied if required.
12.6 Perform lost procedure	• Position is fixed, new track to destination attainable within limits of fuel and daylight is determined, track to destination is maintained, ETAs are calculated, radio, navigation aids and transponder are used for assistance where fitted. • A timely precautionary search and landing is planned if lost/no fuel/ no light.
12.7 Perform diversion procedure	• New route is determined and maintained, ETAs are calculated ±2 minutes, fuel requirements are recalculated and airspace procedures are complied with. • ATC is advised if possible.
12.8 Use radio navigation aids	• Radio navigation aids as fitted to the aeroplane are tuned and tested, beacons identified and used for their respective navigational functions in compliance with regulations.
12.9 Execute arrival procedures	• Applicable information is obtained and applied, radio communications established and arrivals are executed at aerodromes in accordance with airspace requirements.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

ASSESSMENT GUIDE

Elements	Evidence
12.1 Prepare chart and flight plan	A topographical World Aeronautical Chart (WAC) suitable for the flight and any diversions is selected. Planning Chart Australia (PCA), En Route Chart (ERC) and Visual Terminal Chart (VTC) for pre flight planning and airspace assessment are used. Control, Prohibited, Restricted and Danger areas that conflict with the flight track are identified. All tracks required for the flight are drawn on the chart. Controlled airspace is identified and avoided by tolerances specified in AIP-RAC if applicable. Plan applicable altitudes/flight levels and tracking tolerances to avoid controlled airspace when required. Distance markers are constructed along track if applicable. Track error/drift error lines are constructed if applicable. Any additional information required for the flight is included on the chart. Charts for use in flight are folded secured and accessible. Track, distance and Lowest Safe Altitude are transferred from chart to flight plan. Suitability of en route destination and diversion aerodromes is determined. Obtain and interpret an aviation meteorological forecast. Obtain and interpret all NOTAMs applicable to the flight. Most suitable VFR cruising altitude or flight level is selected and entered. Wind velocity obtained from a meteorological forecast is entered on flight plan. TAS, heading, ground speed and time intervals are calculated ± 5 kts, ±2 min ±3°. Fuel requirements for flight and reserves are calculated ±5 minutes. Search and Rescue Time (SARTIME) is calculated. Beginning and end of daylight is allowed for. Calculated flight planning information is transferred to Flight Notification Form. Flight Notification Form is submitted to ATS 30 minutes before ETD if applicable. <u>Elements of Airmanship:</u> Pre flight planning is used to minimise in flight navigational work load. A decision to proceed with the cross country flight is made after analysis of meteorological and ATC conditions.
25.2 Comply with airspace requirements	Traffic clearance requirements are anticipated and planned for. Automatic broadcasting services are used to obtain information. Applicable aviation documents are consulted. Air traffic and airways clearances are requested using standard radiotelephone procedures. Clearances into controlled airspace are requested and obtained before entering controlled airspace. All clearances are complied with unless aeroplane safety is compromised. Amendments to clearances complied with unless aeroplane safety is compromised. Clearance limits imposed by Air Traffic Services are not exceeded unless aeroplane safety is compromised. <u>Elements of Airmanship:</u> Awareness of the air traffic situation is maintained. Controlled airspace is not entered without a clearance. Local and published noise abatement requirements and curfews are observed.
25.3 Conduct departure procedures	All navigation equipment and charts are secured in a safe and accessible place. All departure clearances and instructions are obtained and complied with. QNH is set. First heading is accurately set from overhead the aerodrome or after intercepting outbound track (±5° within 5 nautical miles of aerodrome). Heading indicators are accurately synchronised. Changes to planned headings are recorded. Departure time is recorded allowing for an overhead the airfield or en route departure procedure. ETA is calculated for first turning/reporting point (±2 minutes). <u>Elements of Airmanship:</u> Comprehensive pre flight planning is utilised to reduce the workload airborne. Orientation is always maintained. Emphasis is placed on controlling the aeroplane before conducting navigation administration or communication. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Local and published noise abatement requirements and curfews are observed.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

ASSESSMENT GUIDE

Elements	Evidence
12.4 Navigate aeroplane enroute	Navigation log is maintained. Fuel log is maintained. Revised ground speeds are calculated ± 10 knots. Proportional navigation is used to calculate time intervals. Revised ETAs are calculated ± 2 minutes. Revised fuel endurance is calculated when required. Deduced/dead reckoning (DR) technique is used to establish estimated position. Visual Flight Rules (VFR) are complied with. Area QNH is set. Height is maintained ± 150 feet. External visual features that assist maintenance of heading (± 5°) are selected. A time-based 'Map to ground' chart reading technique is used. Chart is oriented in direction of track. Lead in features are used to identify fixes. Ground features are identified by shape, dimensions, contrast and colour and uniqueness. Fixes are identified by two or more features. Position is fixed at lease once every 30 minutes. Calculate track error and headings to re establish on track navigation. Pre descent and turning point checks are performed. Visual lines of bearing are used to establish position. Awareness of route and destination weather conditions is maintained and changes reacted to. Distance between ground features is accurately compared to distance on charts. Demonstrate ability to maintain heading using magnetic compass only (± 10°). Radio communications are maintained with ATS/ATC. An early decision is made to turn back if weather conditions or darkness preclude completion of flight. <u>Elements of Airmanship:</u> Comprehensive pre flight planning is utilised to reduce the workload airborne. A navigation cycle that ensures accurate navigation is used. Awareness of air traffic is maintained. Emphasis is placed on controlling the aeroplane before conducting navigation administration. Deteriorating situations are recognised and early corrective action is taken. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
12.5 Navigate at low level and in reduced visibility	Pre descent checks are completed from memory. Fuel tank selection is confirmed and mixture is adjusted. Heading indicators are synchronised. ATS is advised. QNH is set. Position is fixed and recorded before descent. VFR are maintained. Wind and turbulence are allowed for. Heading is maintained ± 5°. Height is maintained to a minimum 500 feet AGL (+150 -0 ft). ETAs are revised ± 2 minutes. Suitable features are selected to assist navigation. Position is fixed at least once every 30 minutes. Bad visibility configuration is adopted if weather conditions and visibility are unfavourable. Changed visual aspects of ground features at low level is allowed for. Noise sensitive stock and areas are avoided. Refraction and diffusion caused by heavy precipitation is allowed for. Bad weather circuit is completed at destination if required. <u>Elements of Airmanship:</u> Collision with terrain is avoided. Awareness of changing weather conditions is maintained. A safe alternative plan of action is formulated and applied if required. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Power lines are marked on a chart and avoided. Situation awareness is maintained.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

ASSESSMENT GUIDE

Elements	Evidence
12.6 Perform lost procedure	Pilot remains calm. A prominent 'anchor point' is selected and visual contact is maintained. Aeroplane is configured to achieve best endurance speed at present or most efficient altitude. Flight details and flight plan are examined and any likely error is determined. The heading flown is checked. DR position is determined using heading and ground speed since last fix. At DR position a Most Probable Position (MPP) is constructed using radius based on 10% of DR distance flown since last positive fix. Significant features are looked for, working from prominent to lesser features. A time based 'ground to map' chart reading technique is used. Position located and recorded. A new track and distance are planned. Revised ETA is calculated. Radio navigation aids are used to assist. Radio is used for assistance. Transponder is used for assistance. A timely precautionary search and landing is planned if still lost/minimum fuel/ darkness occurs. <u>Elements of Airmanship:</u> Chart features are not made to 'fit' what is seen on the ground. Early plan is made for a precautionary landing if required. Emotional stability is maintained.
12.7 Perform diversion procedure	Most suitable diversion is selected. Present position is fixed and recorded. Track and distance from present position to destination is calculated. Lowest safe altitude is calculated. Most suitable cruising altitude/level is selected. CTA, CTR, Prohibited, Restricted and Danger areas are identified and allowed for. Heading and ground speed is calculated. ETAs are calculated (± 2 minutes). Position is fixed at least once every 30 minutes. SARWATCH is amended if required. Fuel requirement is calculated (± 5 minutes). ATS is advised of intention to divert. Revised airways/air traffic clearance is obtained. Destination and en route weather is confirmed. VFR are maintained. Navigation aids are used. <u>Elements of Airmanship:</u> All required airways clearances are obtained. SARWATCH is cancelled after arrival.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

ASSESSMENT GUIDE

Elements	Evidence
12.8 Use radio navigation aids	*ADF:* The Automatic Direction Finder (ADF) is correctly tuned and tested, and the NDB identified. The aeroplane is within the published range of the NDB. Bearings from the NDB are used to fix aeroplane position. The NDB is used as a homing aid. The indications are observed, interpreted and reacted to after passing overhead the NDB. *VHF Omni-Directional Radio Range (VOR):* The VOR receiver is tuned and tested and the VOR beacon identified. The aeroplane is within the published operating range of the VOR. Off flag is observed and reacted to. Omni Bearing Selector is used to select the course required. TO - FROM indicators are interpreted without error. Bearings from the VOR are used to fix aeroplane position. The VOR is used as a homing aid. The indications are observed, interpreted and reacted to after passing overhead the VOR. *Distance Measuring Equipment (DME):* The DME receiver is tuned and tested and the DME station identified. The DME us used to indicate distance from the DME beacon. *Use en route and terminal RADAR:* En route and terminal and radar facilities are used to assist navigation. *Global Positioning Systems (GPS):* Flight plan waypoints are entered into GPS. Diversion aerodromes waypoints are entered if applicable. Tracks and distances reading on GPS is checked to correspond with flight plan. Portable GPS is positioned to allow minimum antenna shielding. Power source is connected and serviceable. Waypoints are confirmed with identified ground fixes during en route navigation at least once every 60 minutes. <u>Elements of Airmanship:</u> All radio navigation aids are tuned, identified and tested before use. Potential problems are identified and avoided.

UNIT: 12. NAVIGATE AEROPLANE (PPL)

ASSESSMENT GUIDE

Elements	Evidence
12.9 Execute arrival procedures	Aerodrome information is obtained from ERSA, ATIS or ATS and applied. Applicable NOTAMs are analysed and applied. Radio communications are established. Landing direction is established. *Execute arrival at an uncontrolled aerodrome.* Aerodrome is overflown at 1500 feet AGL and windsock, signal square and unserviceability markers are observed and reacted to. Circuit is joined from the dead side. Alternatively, the circuit is entered at 1000 feet AGL and a minimum of three legs of the circuit are flown. A circuit and landing is completed. ATS is advised of arrival. SARWATCH is cancelled. *Execute arrival at Common Traffic Advisory Frequency (CTAF) or a Mandatory Broadcast Zone (MBZ) aerodromes.* ATIS is obtained if available. Inbound call is made by nominated distance or position. Circuit is entered by flying three legs of the circuit or by a straight in approach in accordance with MBZ procedures. All air traffic is identified and avoided. SARWATCH is cancelled. *Execute arrival at a General Aviation Advisory Procedure (GAAP) aerodrome.* ATIS is obtained if available. Inbound radio call is made by GAAP approach points. Landing instructions are complied with. SARWATCH is cancelled. *Execute arrival at a Control Zone (CTR).* ATIS is obtained if available. Airways clearances are complied with. Landing instructions are complied with. SARWATCH is cancelled. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Awareness of air traffic is maintained. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 13. RECOVER FROM SPIN (PPL)

FLYING STANDARD

Elements	Performance Criteria
13.1 Recover from spin	• Pre-manoeuvre checks are performed. • Direction of spin is identified, yaw is eliminated, aeroplane is unstalled and balanced flight resumed.

ASSESSMENT GUIDE

Elements	Evidence
13.1 Recover from spin	Aeroplane is prepared for spin manoeuvre. Pre manoeuvre checks are carried out from memory. Airspace is cleared. Lookout above and below is maintained. Power is reduced. As IAS decreases, altitude is maintained. Control column is moved rearwards. Control column is moved fully back and full rudder is applied in the direction of intended spin prior to or at point of stall and opposite aileron is applied if needed. Stable spin is entered. Direction of spin is confirmed. Turn indicator/coordinator is observed. IAS is observed. Position of skid ball observed. *Recover from spin:* Throttle is closed. Ailerons are centralised. Full opposite rudder to direction of spin is applied. After a short pause, control column is moved forward until rotation ceases and wings unstall. When rotation stops rudder is centralised. Wings are paralleled to horizon using ailerons. Aeroplane is recovered from dive. Power is applied as nose reaches horizon. *Enter spiral dive;* Throttle is closed. Height is maintained. Control column is moved rearwards. Before point of stall rudder is applied to yaw aeroplane. Aileron is used to assist roll. Nose is manoeuvred well below the horizon. Increasing IAS is recognised. Increasing bank angle is recognised as control column is moved backwards. ASI, altimeter, and turn coordinator/indicator readings are observed. Increasing 'g' forces are observed. *Recover from spiral dive:* Throttle is closed. Wings are paralleled to horizon using ailerons. Rolling 'g' limit is not exceeded. Recovery from dive is positive and smooth. <u>Elements of Airmanship:</u> Lookout is maintained above and below aeroplane. Height loss awareness is maintained. The 'g' and manoeuvre limits of the aeroplane are not exceeded. Local and published noise abatement requirements and curfews are observed.

SUBSECTION 4 – ASSESSMENT GUIDE FOR CPLA

INDEX TO UNITS OF COMPETENCY FOR COMMERCIAL PILOT QUALIFICATION

UNIT: 14. MANAGE PRE AND POST FLIGHT ACTIONS (CPL)

FLYING STANDARD

Elements	Performance Criteria
14.1 Complete pre and post flight administration	• Pre-flight planning and documentation is completed in accordance with regulations and/or operations manual. • Aeroplane take-off and landing performance is calculated in accordance with performance chart. • Pre and post flight maintenance release (Flight Technical Log) and flight administration is completed in accordance with regulations and/or operations manual. • Aeroplane serviceability is determined by daily inspection, and certification of daily inspection in maintenance release (Flight and Technical Log) is completed in accordance with regulations.
14.2 Perform pre-flight inspection	• Equipment and documentation as required by regulation is identified and secured in the aeroplane and internal and external checks are completed in accordance with approved checklist.
14.3 Perform and certify daily inspection	• A daily inspection of aeroplane is performed in accordance with aeroplane system of maintenance approved by CASA and certified in accordance with regulations.

ASSESSMENT GUIDE

During assessment the pilot should be observed to perform the following checks and actions as evidence of ability to meet the licensing standards.

The checks and actions detailed in this guide are advisory. Checks and actions in approved checklists, placards, Flight Manual/POHs, or Operations Manuals have precedence and must be complied with.

Element	Evidence
14.1 Complete pre and post flight administration	Flight briefing is completed in accordance with operations manual. Pre-flight authorisation is confirmed. Conditions of authorisation are complied with. Prescribed flight details are recorded. Aeroplane serviceability is determined. Number of flying hours before next service is determined. Total hours flown are recorded. Aeroplane unserviceabilities are recorded. Maintenance release (Flight Technical Log) is checked to ensure aeroplane serviceability and currency of daily inspection. Flight authorisation encompasses requirements of flight. NOTAM, MET, ATC, aerodrome and airspace information is accessed and applied. Area and terminal meteorology forecasts are interpreted and applied. Aeroplane weight and balance is calculated. Take off and landing performance is calculated. Flight activities are modified to comply with applicable information issued. Elements of Airmanship: Attention to detail is applied.

UNIT: 14. MANAGE PRE AND POST FLIGHT ACTIONS (CPL)

14.2 Perform pre-flight inspection	Aeroplane Flight Manual/POH and route charts are secured in aeroplane. Equipment carried is suitable for aeroplane type and flight circumstances. Serviceability of aeroplane equipment is ensured. Safety and accessibility of aeroplane position is determined. Tie downs are removed and secured. Covers are removed and secured. External checks are completed in accordance with approved checklist. Internal checks are completed in accordance with approved checklist. Adjustments are made to harness, seat or rudder pedals. Equipment is secured. Elements of airmanship: Ability is demonstrated to consistently perform pre flight administration and a pre flight inspection, overlooking no condition or detail that may compromise safety.
14.3 Perform and certify daily inspection	Daily inspection is carried out in accordance with maintenance schedule or system of maintenance procedures before the first flight of each day, using applicable data. Daily inspection ensures that no defect or damage to the aeroplane could compromise safety of the operation. Maintenance release remains valid for period of intended flight. Serviceability of aeroplane is determined. Any endorsements, conditions or limitations on maintenance release can be complied with. Maintenance release is applicable to category of intended flight. Endorsements related to any Permissible Unserviceability (PUS) are entered into the maintenance release. No maintenance will fall due during proposed flight. Time in service is recorded in maintenance release in accordance with the relevant CAR/CASR. Maintenance Release (Flight Technical Log) is endorsed and certified after completion of daily inspection or approved maintenance in accordance with regulations. Elements of Airmanship: Attention to detail and thoroughness is evident in all actions.

UNIT: 15. OPERATE RADIO (CPL)

FLYING STANDARD

Elements	Performance Criteria
15.1 Use R/T equipment	• Transmission and receipt of R/T messages is carried out using English language in accordance with procedures and phraseology detailed in the FROL syllabus and Aeronautical Information Publications (AIP), and emergency and urgency transmissions and procedures are made in accordance with Enroute Supplement Australia (ERS(A) current edition) and AIP and all messages are reacted to appropriately.
15.2 Maintain R/T equipment	• R/T equipment failure procedures are performed in accordance with Flight Manual/POH. • Fault finding procedures not involving special tools or instruments are employed.

ASSESSMENT GUIDE

Element	Evidence
15.1 Use R/T equipment	Pre flight checks are completed in accordance with Flight Manual/POH. Check serviceability of all required R/T equipment. All radio control switches are used. The responsibilities of a radiotelephone operator are carried out. Standard air traffic radio transmissions are performed. Received instructions are complied with. Pilot transmitted information and phraseology is applicable to the flight phase. Traffic and alerting transmissions are recorded. Transmission “in the blind” is demonstrated. Over transmissions and clipped transmissions are avoided. Listening watch is maintained. Simulated transmission of urgency and distress messages is demonstrated. HF radio is tuned if applicable. Awareness of international distress frequencies is demonstrated. Radio silence is maintained when required. Ability is demonstrated to recognise carrier wave only' transmissions as a transmitting or receiving pilot and react to rectify the abnormal situation. Loss of radio transmission/reception procedure is performed. Comprehension of and reaction to light signals is demonstrated. The ability to communicate with Air Traffic Services and other aircraft, using the RT is demonstrated. <u>Elements of Airmanship:</u> The ability to communicate on the radiotelephone using standard radio phraseology is consistently demonstrated.
15.2 Maintain R/T equipment	Fault finding procedures not involving special tools or instruments are employed. Minor faults are rectified. Meters and other means are used to indicate normal operation of equipment equipped with monitoring devices. Aeroplane R/T antenna systems are identified. Aeroplane battery positions and charging methods are described. Trailing aerial is tuned. Emergency communications equipment is operated. Knowledge of fuse positions, circuit breakers and emergency power switches is demonstrated. Procedures for conduct of routine pre-flight test of aeroplane R/T installation is followed.

UNIT: 16. CONTROL AEROPLANE ON THE GROUND (CPL)

FLYING STANDARD

Elements	Performance Criteria
16.1 Start engine and stop engine	• Pre-start and after start checks are completed in accordance with Flight Manual/POH. • Engine is started and shut down in accordance with Flight Manual/POH. • Emergencies are managed in accordance with Flight Manual/POH. • Pre-and after shutdown checks are completed in accordance with Flight Manual/POH.
16.2 Taxi aeroplane	• Taxi clearance is obtained. and aeroplane is taxied in accordance with prevailing aerodrome conditions. • Effects of prevailing conditions are anticipated and allowed for. • Engine handling on the ground is in accordance with Flight Manual/POH and propeller care is exercised. • Approved marshalling signals are utilised.

ASSESSMENT GUIDE

Element	Evidence
16.1 Start and stop engine	Aeroplane is clear of obstructions, buildings and aircraft. Pre-start checks are completed in accordance with approved checklist. Propeller is cleared. Engine is primed in accordance with Flight Manual/POH procedures. Cold engine is started in accordance with approved checklist. Hot engine is started in accordance with approved checklist. Engine is hand started if applicable. After start checks are completed in accordance with approved checklist. Engine is operated within prescribed limits. Flooded carburettor or over primed fuel injection system is managed. Induction or engine fire is managed in accordance with approved checklist. Pre-shutdown checks are completed in accordance with approved checklist. Ignition switch safety check is completed. Engine is stopped in accordance with approved checklist. After shutdown checks are completed in accordance with approved checklist. Elements of Airmanship: Engine is operated within manufacturers limitations. Mixture and carburettor heat controls are used correctly for the type of engine being operated. Manual starting safety procedures are complied with. Aeroplane is positioned with a view to safety and propeller care when starting engine. Local and published noise abatement requirements and curfews are observed.

UNIT: 16. CONTROL AEROPLANE ON THE GROUND (CPL)

ASSESSMENT GUIDE

Element	Evidence
16.2 Taxi aeroplane	Clearance is obtained according to local air traffic procedures. Air Traffic Control (ATC) instructions are complied with. Brake checks are performed in accordance with approved checklist. Flight instrument checks are performed while taxiing. Turns in confined spaces are executed without incident. Nose wheel is held within 1.5 metres of centre line. Aeroplane nose is yawed to maintain forward visibility (tail wheel aeroplane). Tail wheel aeroplane is maintained within the taxiway limits. Tail skid and ailerons are used to turn aeroplane when applicable. Slipstream effect on rudder is used to assist turns when applicable. Aeroplane is steered using differential braking when applicable. Brakes and power are used to maintain taxi speed and are not used in opposition. Wind direction and speed is compensated for. Taxi speed is adjusted to suit aeroplane type, surface conditions, congestion, maintenance of control and to avoid collision with obstacles or other aircraft. Effect of ground slope is anticipated and countered. Ailerons are used to prevent wings from rising under crosswind conditions. Elevator is used to compensate for head or tail wind. Up elevator is used at high power (tail wheel aeroplane). Minimum power is used to maintain taxi speed. Engine instruments are monitored and reacted to. Filtered air is used when available and required. Ram air or carburettor heat are not used in dusty conditions. Carburettor heat is used to control icing. Potentially damaging objects are avoided. Minimum power is used to avoid propeller damage. Correct marshalling signals are complied with. Incorrect marshalling signals are recognised and ignored. Aeroplane speed and distance from obstacles enables avoidance of collision in the event of brake failure. Steering failure is managed by use of speed, distance, brakes or reverse thrust. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Surface traffic conditions are recognised and accommodated. Different aeroplane types are recognised. Adverse effect of propeller slipstream on other aeroplanes, aerodrome facilities and personnel is avoided. Inspection of taxi path is carried out when surface conditions are obscured. Right of way procedures are complied with. Local and published noise abatement requirements and curfews are observed.

UNIT: 17. TAKE OFF AEROPLANE (CPL)

FLYING STANDARD

Elements	Performance Criteria
17.1 Carry out pre-take-off procedures	• Pre take-off checks are completed in accordance with approved checklist. • Aeroplane is lined up in the centre of the runway in take off direction and line up checks are carried out in accordance with approved checklist.
17.2 Take-off aeroplane	• Take off power is applied, aeroplane is maintained aligned with centre of runway with wings maintained level and rotates at manufacturers recommended speed to achieve planned climb performance. • Aeroplane is configured for nominated climb profile and tracking on centreline of runway is maintained.
17.3 Carry out after take-off procedures	• After take-off checks are performed in accordance with approved checklist.

ASSESSMENT GUIDE

Element	Evidence
17.1 Carry out pre-take-off procedures	Safety briefing is performed. Pre take off checks are completed in accordance with approved checklist. ATS instructions are complied with. Aeroplane is aligned with centre line in take off direction. Aeroplane is positioned as close to the start of the runway as possible. Line up checks are performed in accordance with approved checklist.
17.2 Take-off aeroplane	Brakes are released where fitted. Take off power is smoothly and fully applied. Aeroplane direction is maintained on runway. Excessive pressure on nose wheel is avoided. Yaw is controlled. Flight and engine instruments are checked and reacted to during take off roll. Aeroplane is rotated at recommended speed (+ 5 -0 kts). At a safe height undercarriage is retracted (if applicable). Aeroplane is accelerated to nominated climb speed appropriate to obstacle clearance requirements. Flaps are retracted at safe height if applicable. Climb is established at nominated speed (± 5 knots). Climb power is set (± 50 RPM, ± 0.5" MAP). Heading is adjusted to maintain track along extended runway centre line. *Perform crosswind take off:* Applicable checks are performed in accordance with aeroplane checklist. Aeroplane is lined up on centre line of runway. Aeroplane is positioned as close to runway threshold as possible. Into wind aileron is raised. Line up checks are performed. Brakes are released. Take off power is smoothly applied. Aeroplane direction is maintained on runway. Light pressure is maintained on nose wheel. Wings are maintained level with aileron as speed increases. Yaw is controlled. Flight and engine instruments are checked and reacted to on take off roll. Aeroplane is rotated at recommended speed (+5 –0 kts). Drift is countered by adjusting heading and aeroplane is tracked along runway centre line. Aeroplane is balanced. Undercarriage and flaps are retracted at a safe height if applicable. . Aeroplane is accelerated to nominated climb speed (± 5 kts) appropriate to obstacle clearance requirements. Climb power is set (± 50 RPM ± 0.5" MAP). After take off checks are performed. Elements of Airmanship: Local and published noise abatement requirements and curfews are observed.
17.3 Carry out after take-off procedures	After take off checks are completed at a safe altitude in accordance with approved checklist. Elements of Airmanship: Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Awareness of all circuit traffic is maintained. Different aeroplane types are recognised. R/T listening watch is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

FLYING STANDARD

Elements	Performance Criteria
18.1 Climb aeroplane	• Attitude and power are adjusted to achieve an increase of altitude at normal, maximum rate (V_y), maximum angle (V_x) and cruise conditions of flight during straight and turning manoeuvres whilst maintaining the aeroplane in balanced flight. • Aeroplane is levelled off from climb at nominated altitude.
18.2 Maintain straight and level flight	• Attitude and power are adjusted to achieve a constant height, heading and speed whilst in balanced flight and at nominated speeds and aeroplane configurations.
18.3 Descend aeroplane	• Attitude and power are adjusted to achieve a decrease in altitude during glide, and power assisted flight at a nominated speed or rate of descent during straight and turning flight manoeuvres whilst in different aeroplane configurations and maintaining balanced flight. • Aeroplane is levelled from a descent at a nominated altitude.
18.4 Turn aeroplane	• Attitude and power are adjusted to achieve a decrease in altitude during glide, and power assisted flight at a nominated speed or rates of descent during straight and turning flight manoeuvres whilst in different aeroplane configurations and maintaining balanced flight. • Aeroplane is levelled from a descent at a nominated altitude.
18.5 Control aeroplane at slow speed	• Pre manoeuvre checks are completed. • Aeroplane is flown at minimum clean approach speed and at minimum landing configuration approach speed as specified in Flight Manual/POH in balanced flight. Full power is applied and attitude and balance adjusted to achieve nominated speed in excess of 1.5 V_s, whilst maintaining height.
18.6 Perform circuits and approaches	• Consistent traffic patterns are conducted in accordance with AIP procedures appropriate to the aeroplane type with allowance for wind velocity on all legs of the circuit, completing all checklists and radiotelephone procedures and intercepting and maintaining the approach path applicable to the aeroplane type, whilst remaining clear of other traffic. • When traffic conflict or adverse flight conditions arise, these conditions are recognised and a go around is performed from any position in the traffic pattern.
18.7 Comply with airspace requirements	• Aeroplane is maintained within a specified area, whilst complying with any air traffic requirements, controlled or restricted airspace conditions or limitations and reacting to any factors that may affect the situation awareness progress of the flight.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

ASSESSMENT GUIDE

Elements	Evidence
18.1 Climb aeroplane	Climb power is set (±50 RPM, ± 0.5 " MAP). Climb nose attitude is selected. Wings are parallel to the horizon. Aeroplane is balanced. Aeroplane is trimmed when IAS is stabilised. Direction is maintained (±10°). Instruments are used to confirm performance. Manifold pressure is maintained as altitude is increased. IAS for maximum rate of climb is maintained (+5 -0 knots). IAS for maximum angle of climb is maintained (+5 -0 knots). IAS for cruise climb is maintained (±5 knots). Forward visibility is maintained. Engine temperature is monitored and reacted to. Level off altitude is anticipated. Nose attitude is adjusted to terminate climb. Aeroplane is accelerated to cruise speed while maintaining altitude (± 100 feet). Straight and level nose attitude is selected when IAS stabilises. Direction is maintained (±10°). Cruise power is set (± 50 RPM ±0.5" MAP). Aeroplane is balanced. Aeroplane is trimmed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Nose of aeroplane is cleared to ensure forward visibility. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.
18.2 Maintain straight and level flight	Straight and level nose attitude is established at nominated power at determined altitude. Wings are parallel to the horizon. Aeroplane is trimmed. Aeroplane is balanced. Straight and level nose attitude is maintained at cruise power (± 100 feet, ±10 knots of nominated speed) (± 50 RPM ± 0.5" MAP). Wings are kept parallel to the horizon to maintain direction (± 10°). Aeroplane is trimmed. Performance is confirmed by use of instruments. Aeroplane natural stability is demonstrated. Aeroplane is balanced by use of rudder. Rudder is trimmed if applicable to aeroplane type. Straight and level flight is maintained at various power settings. Aeroplane is balanced at varying power and speed. Aeroplane is re trimmed for varying power and speed. Performance is confirmed by use of instruments. Straight and level flight is maintained with flap selected. Straight and level flight is maintained with undercarriage selected down. Aeroplane is trimmed for each configuration. Performance is confirmed by use of instruments. Aeroplane is balanced when power is altered. Pitch is controlled when power is changed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Natural horizon is used as primary attitude reference. Height is maintained within allocated height band.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

ASSESSMENT GUIDE

Elements	Evidence
18.3 Descend aeroplane	*Glide descent:* Carburettor heat is applied as required. Idle power is selected for glide descent. Aeroplane is balanced. Nose attitude is selected to maintain descent IAS (±5 knots). Aeroplane is trimmed. Direction is maintained (± 10°). Instruments are used for precision. Engine temperature is monitored and controlled. Engine is operated to minimise spark plug fouling. Sparking plugs are de fouled as required. Carburettor heat is used as required. *Cruise descent:* Cruise descent power is selected (± 50 RPM, ±0.5" MAP). Aeroplane is balanced. Nose attitude and power is selected to maintain cruise descent IAS (± 5 knots ±100 ft/min of nominated rate of descent). Aeroplane is trimmed. Direction is maintained. Instruments are used for precision. Level of altitude is anticipated and achieved (±100 ft). Glide and powered descents are performed with flap and undercarriage selected down. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Clearance ahead and below is maintained. ATC altitude restrictions are observed. Aeroplane does not exceed design limits during maximum rate descent. Situation awareness is maintained. Effects of undercarriage, flaps are managed.
18.4 Turn aeroplane	Airspace cleared procedure is carried out before all turns. Bank angle is increased to 30° for level turn. Nose attitude is adjusted to maintain altitude. Aeroplane is balanced. Altitude is maintained (± 100 feet). Constant angle of bank is maintained (±5°). *Climbing turn is performed:* Angle of bank does not exceed 20° in climbing turn (±5°). Climbing turn IAS is maintained (± 5 knots). *Descending turn is performed:* Descending turn IAS is maintained (± 10 knots). 30-degree angle of bank is maintained. Aeroplane is balanced. Rudder is used to counter yaw. Gliding turn through 180 degree heading change is performed and height loss is observed. Roll out from turn on a specified direction or heading is anticipated. Wings are rolled level. Nose attitude is adjusted to maintain IAS. Aeroplane is balanced. <u>Elements of Airmanship:</u> Situation awareness is maintained. Lookout is maintained in direction of turn and above or below. Airspeed is maintained within airframe limitations. Engine operating limits are not exceeded. Carburettor icing is avoided.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

ASSESSMENT GUIDE

Elements	Evidence
18.5 Control aeroplane at slow speed	Pre manoeuvre checks are completed without memory aids. Aeroplane is flown at minimum clean approach speed. The reduced effectiveness of controls is demonstrated. Aeroplane is flown at minimum flapped configuration approach speed. The airspeed indicator is closely monitored. Audible and visual stall warnings are observed and reacted to. The reduced effectiveness of controls is managed. The effects of induced drag are managed. The slow speed configuration is recovered from using take off power to achieve nominated speed without loss of height. (± 10kts ± 100 ft) . Aeroplane is balanced. <u>Elements of Airmanship:</u> Situation awareness is maintained.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

ASSESSMENT GUIDE

Elements	Evidence
18.6 Perform circuits and approaches	Drift is controlled by adjusting heading and aeroplane is tracked along extended runway centre line. Climb is established. Climbing turn onto cross wind leg is performed (15° ±5° bank). Aeroplane is established on cross wind leg. Allowance is made for drift. Aeroplane is levelled off at circuit height (± 100 feet). Applied judgment is used to turn aeroplane onto downwind leg (± 10°). Adjustment is made to circuit to ensure safe spacing with preceding traffic. Correct distance from runway centre line maintained. Altitude on downwind leg is maintained (± 100 feet). Pre landing checks are performed in accordance with checklist. Radio used to report position and intentions. Applied judgment is used to turn on to base leg to intercept acceptable approach path. Allowance is made for drift. Acceptable approach path is established. Approach speed is maintained (+5 -0 knots). Acceptable approach path on base leg is maintained. Applied judgment is used to turn onto final approach leg. Aeroplane is aligned with and tracking runway centre line. Aiming point is identified and selected. Applicable approach path angle is established. Designated approach air speed is maintained (+5-0 knots). Track along extended runway centre line is maintained. Coordinated use of power and nose attitude are applied to control approach path angle and speed. Allowance is made for wind gusts and turbulence. Normal approach is completed. Glide approach is performed. Flapless approach is managed and performed. Final approach checks are completed in accordance with approved checklist. *Go around from base leg is initiated:* Takeoff power is applied. Climb is established. Flaps and undercarriage are retracted if selected down, in the correct sequence. Radio is used to advise ATC. After take off checks are performed. Aeroplane is turned on to final leg and another circuit completed. *Go around from final approach leg is initiated:* Take off power is applied. Climb is established. Flaps and undercarriage are retracted in the correct sequence, if selected down. Radio is used to advise ATC. After take off checks are performed. Additional circuit is completed. <u>Elements of Airmanship:</u> Situation awareness is maintained. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Right of way rules are applied and complied with. Radio listening watch is maintained and received information reacted to if applicable. Weather conditions are monitored and reacted to. Fuel status is monitored. Local and published noise abatement requirements and curfews are observed.

UNIT: 18. CONTROL AEROPLANE IN NORMAL FLIGHT (CPL)

ASSESSMENT GUIDE

Elements	Evidence
18.7 Comply with airspace requirements	Geographical limits of the training area are demonstrated on a chart. Prominent geographical features are identified using a chart. The limits of the training area are identified on the ground. The position of controlled airspace is determined using a chart and geographical features. Restricted areas are identified using a chart and geographical features. Departure from the circuit area and transition to the training area is completed without incident. Departure from the training area and transition to the circuit area is completed without incident. Elements of Airmanship: Awareness of aeroplane position is maintained using a chart and geographical features. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Radio listening watch is maintained and information received is acted upon. Weather conditions are monitored and reacted to. Fuel status is monitored and reacted to. Orientation by geographical features is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 19. LAND AEROPLANE (CPL)

FLYING STANDARD

Elements	Performance Criteria
19.1 Land aeroplane	• Aeroplane is landed at a controlled rate of descent, aligned with and above the runway centreline, within a specified area, without drift, maintaining directional control, and stopping within the available runway length. • Ballooning and bouncing are minimised and controlled. • After landing checks are performed in accordance with approved checklist.
19.2 Perform mislanding procedure	• Decision to perform mislanding is made when landing standards cannot be achieved. • Control of aeroplane is maintained and circuit is performed.

ASSESSMENT GUIDE

Element	Evidence
19.1 Land aeroplane	Aiming point is selected and identified. Rate of descent is reduced at a height above runway suitable for the aeroplane type. Power is reduced to idle prior to touchdown. Directional control is maintained during roundout with use of rudder. Lateral control is maintained during roundout using ailerons. Ballooning is recognised and controlled prior to touchdown. Touchdown is achieved within 200 feet (60 metres) beyond a nominated touchdown point. Aeroplane is landed on main wheels with nose wheel clear of ground (nose wheel aeroplane). Aeroplane is landed simultaneously on main wheels and tail wheel (tail wheel aeroplane). Controlled rate of descent at touchdown is achieved. Bouncing is recognised and controlled after touch down. Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). Aeroplane direction on ground is controlled. Nose wheel contact with runway is controlled. Aeroplane brakes are used to slow aeroplane. Aeroplane is stopped within runway length. After landing checklist is completed. Wheel landing in tail wheel aeroplane is performed. *Land in a crosswind:* Applicable flap is selected for crosswind conditions. Aeroplane is tracked along runway centre line. Rate of descent is arrested at the height above runway applicable to aeroplane type. Power is reduced to idle. Direction is controlled using rudder. Lateral control is maintained using ailerons. Ballooning is recognised and controlled prior to touchdown. Crabbing approach technique-nose is aligned with centre line before touchdown on main wheels, ensuring aeroplane is not drifting. Wing down technique-aeroplane is landed on the into wind main wheel, ensuring aeroplane is not drifting. Touchdown is achieved within 200 feet (60 metres) beyond the nominated touchdown point. Controlled rate of descent on touchdown is achieved. Bouncing is recognised and controlled after touch down. Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). Ailerons are used to prevent wing rise. Aeroplane direction on ground is controlled. Nose wheel contact with runway is controlled. Brakes are used without lockup to slow aeroplane. Aeroplane is stopped within runway length. After landing checklist is completed. Ability is demonstrated to land aeroplane in crosswind conditions or conduct a mislanding and complete an alternative plan. Elements of Airmanship: Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Awareness of conflicting air traffic is maintained. Conflict is avoided with aeroplanes using into wind runway. Runway is vacated when practicable. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 19. LAND AEROPLANE (CPL)

ASSESSMENT GUIDE

Element	Evidence
19.2 Perform mislanding procedures	Aeroplane is controlled. Take off power is applied. Aeroplane direction is controlled on ground. Aeroplane lift off from runway is at lift- off IAS (+5 -0 kts). Runway direction is maintained. Climb is established. Flaps and undercarriage are retracted in the correct sequence, if selected down. Radio is used to advise ATC of pilot's intentions. After take off checks are performed. <u>Elements of Airmanship:</u> Windsock and other indicators are used to determine wind velocity. Allowance for wind velocity is made during landing. Runway is unobstructed. Go-around is initiated on mislanding. Radio listening watch is maintained. Weather conditions are monitored. Wake turbulence is avoided. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

FLYING STANDARD

Elements	Performance Criteria
20.1 Recover from stall	• Pre-manoeuvre checks are completed. • Aeroplane attitude and power settings are adjusted to resume normal balanced flight on advent of stall. • Height loss is consistent with aeroplane type.
20.2 Recover from incipient spin	• Pre manoeuvre checks are completed. • Recovery at incipient spin stage is performed (stall with wing drop) and. controlled flight is resumed. • Recovery at incipient spin stage during a turn is performed and controlled flight is resumed.
20.3 Turn aeroplane steeply	• Airspace cleared procedure is carried out. • Level turn of nominated bank angle is achieved without altitude change. • Descending turn of nominated bank angle is achieved to a nominated heading or geographical feature through a minimum of 500 feet height loss. • Recovery is made from spiral dive.
20.4 Sideslip aeroplane	• Pre-manoeuvre checks are performed. • Yaw is induced to achieve increased rate of descent while maintaining track and airspeed. • Turn through minimum track change of 90° at constant airspeed using sideslip. • Recovery from sideslip is achieved and aeroplane is returned to balanced flight.
20.5 Execute short take-off and landing	• Take off performance is calculated in accordance with performance chart. • Pre-take-off checks are performed in accordance with approved checklist. • Aeroplane is lined up to enable use of maximum runway length. • Lineup checks are performed in accordance with approved checklist. • Take off power is achieved before brakes (where fitted) are released and aeroplane is rotated at recommended speed and nominated climb speed appropriate to obstacle clearance requirements is achieved. • After-take-off checks are performed from memory in accordance with approved checklist. • Landing performance is calculated in accordance with performance chart. • Aeroplane is landed at nominated touch down point +100 ft (30 metres) at minimum speed and maximum braking is applied. • Ballooning and bouncing are minimised and controlled. • After-landing checks are performed in accordance with approved checklist.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

ASSESSMENT GUIDE

Elements	Evidence
20.1 Recover from stall	Pre manoeuvre checks are completed without memory aids. Airspace is cleared. Height is maintained above the minimum safe altitude to perform stalls. Awareness of minimum height requirement is demonstrated. RPM is set full fine. Mixture set rich. Carburettor heat set hot. Power is reduced to idle. Aeroplane is balanced. Altitude is maintained as IAS decreases. Control column is moved rearwards. Increasing nose attitude is observed. Effect of airframe buffet is observed and felt through control column. Instrument indications are monitored. Decreased effectiveness of controls is observed. The ineffectiveness or reversal effect of ailerons is demonstrated. Visual or aural stall warning indicators are observed. At the stall, speed is noted and stick/control column position is observed. At the point of stall departure from intended flight path is observed. Stall with power applied is achieved. Stall with flaps selected is achieved. Stall with undercarriage extended is achieved (if applicable). Stall while aeroplane is climbing is achieved. Stall while aeroplane is descending is achieved. Stall while aeroplane is turning is achieved. Stall while aeroplane is in approach configuration is achieved *Recovery is made from stall using power:* Wing drop is prevented by using rudders to control yaw. Recovery is achieved by unstalling the wings using the elevators, and simultaneously applying full power. Wings are maintained parallel to horizon using ailerons. Height loss is observed. *Recovery is made from stall without using power:* Recovery is achieved by unstalling the wings using the elevators. Nose attitude is adjusted to achieve best gliding speed. Height loss is observed. *Recovery is made from stall during a turn:* Stall is recognised when aeroplane departs from intended flight path. Recovery from stall during turn is achieved by unstalling the wings using the elevators and simultaneously applying full power. Aeroplane is balanced. When unstalled, ailerons are used to control angle of bank. <u>Elements of Airmanship:</u> Awareness of height loss is maintained. Lookout above and below is maintained during all manoeuvres. Minimum height limit is observed. Local and published noise abatement requirements and curfews are observed.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

ASSESSMENT GUIDE

Elements	Evidence
20.2 Recover from incipient spin	*Incipient spin is entered.* Pre manoeuvre checks are completed from memory. A safe altitude is selected. Airspace is cleared. Power is reduced. Height is maintained as airspeed decreases. Wing drop is induced by use of rudder prior to or at point of stall. *Recover from incipient spin.* Opposite rudder is applied to prevent further yaw. Wings are unstalled by using elevators. Ailerons are used to parallel wings to horizon. Aeroplane is recovered from dive. Full power is applied as nose approaches horizon. *Recover from a stall during a turn.* Speed is allowed to reduce in a level, climbing or descending turn. The effect of a stall during a turn is demonstrated. Recovery is made from a stall in a turn. <u>Elements of Airmanship:</u> Situation awareness is maintained. Pre manoeuvre checks are completed without aid to memory. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Operations are performed above the legal minimum altitude. Aeroplane and engine limitations are observed.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

ASSESSMENT GUIDE

Elements	Evidence
20.3 Turn aeroplane steeply	*Enter and maintain a level steep turn:* Airspace cleared procedure is followed. Angle of bank is increased to 45 or 60 degrees (± 10°). Nose attitude is adjusted to maintain altitude (± 100 feet). Slip and skid are balanced with rudder. Power is increased to maintain IAS (±10 knots). Angle of bank and nose attitude are coordinated to maintain altitude. Awareness of increased stalling speed is demonstrated. *Enter and maintain a descending steep turn:* Airspace ahead and below is cleared. From a descent, angle of bank is increased to 45 or 60 degrees. Nose attitude is adjusted to maintain descent IAS (± 10 knots). Slip and skid are balanced with rudder. Angle of bank and nose attitude are coordinated to maintain descent IAS. Engine and carburettor temperature are monitored and managed. Awareness of increased stalling speed is demonstrated. *Recover from level steep turn:* Heading or geographical roll out feature is anticipated. Wings are rolled parallel to horizon. Nose attitude is adjusted to maintain altitude. Slip and skid are balanced with rudder. Power is reduced to maintain IAS. *Recover from descending steep turn:* Heading or geographical roll out feature is anticipated. Wings are rolled parallel to horizon. Nose attitude is adjusted to maintain descent IAS. Slip and skid are balanced with rudder. Engine temperature is monitored. *Recover from a spiral dive:* Throttle is closed. Wings are rolled parallel to horizon. Nose of aeroplane is smoothly and positively raised to horizon. Power is set as required. *Recover from a stall during a steep turn:* Backpressure is released from control column to unstall wing. Full power is applied. Wings are rolled parallel to horizon using ailerons. Aeroplane is balanced. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique in direction of turn and below. Awareness of higher stall speed in turns is demonstrated. Collision with terrain is avoided. Aeroplane 'g' limits are not exceeded.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

ASSESSMENT GUIDE

Elements	Evidence
20.4 Sideslip aeroplane	Airspace is cleared ahead and below. Wing is lowered during a glide. Opposite rudder is applied to prevent turn. Elevators are used to adjust nose attitude to maintain glide IAS (+10 -5 knots). Ailerons are used to maintain bank angle. Rate of descent is adjusted by coordinating angle of bank and applied rudder. Flight instruments are monitored. Carburettor air and engine temperatures are monitored. *Recover from sideslip:* Recovery height is anticipated. Wings are rolled parallel to horizon using ailerons. Yaw is controlled with rudder. Control column is moved to maintain glide IAS. *Perform sideslipping turn and recover:* Airspace is cleared around and below. Whilst in a gliding turn opposite rudder is applied to cause the aeroplane to sideslip. Turn and descent rates are controlled by coordinating angle of bank and use of rudder. IAS is controlled with elevator. Engine temperature is monitored. Roll out feature or heading, and height is anticipated. Wings are rolled parallel to horizon. Yaw is controlled with rudder. Nose attitude is adjusted with control column to maintain glide speed. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Glide speed is maintained. Functions of fuel system are monitored. Situation awareness is maintained. Aeroplane limitations are known and not exceeded. Local and published noise abatement requirements and curfews are observed.

UNIT: 20. EXECUTE ADVANCED MANOEUVRES AND PROCEDURES (CPL)

ASSESSMENT GUIDE

Elements	Evidence
20.5 Execute short take-off and landing	Take off and landing performance is calculated using authorised charts. Pre take off checks are performed in accordance with approved checklist. Suitable flap for minimum ground roll take off is selected. Aeroplane is lined up utilising maximum runway length available. Line up checks are performed in accordance with approved checklist. *Perform short take-off:* Brakes are applied. Stick is held full back (tail wheel aeroplane). Take off power is applied. Brakes are released. Direction on runway is maintained. Aeroplane is rotated at recommended speed and nominated climb speed appropriate to obstacle clearance requirements is achieved. Normal circuit is completed. *Perform short take-off from soft surface:* Brakes are applied. Control column is held fully back. Take off power is applied. Brakes are released. Direction on runway is maintained. Aeroplane is lifted off at minimum possible IAS. (+5 -0 knots). Aeroplane is allowed to accelerate. Aeroplane is climbed at best angle or rate of climb as appropriate for obstacle clearance requirements. After take-off checks are performed. *Perform short landing:* Aiming point is selected. Approach speed is maintained (+5 -0 kts) (calculated from take off and landing chart). Approach path is maintained. Rate of descent is reduced at height above runway suitable for aeroplane type. Power is reduced to idle. Touchdown is achieved at minimum speed without drift, ballooning or bouncing within 100 feet (30 metres) beyond a nominated touchdown point. Touchdown is achieved on main wheels (tricycle undercarriage). Touchdown is achieved on main wheels and tail wheel (tail wheel aeroplane). Aeroplane is landed on and aligned with runway centre line (nose or tail wheel within 2 metres of centreline). Aeroplane direction on ground is controlled. Maximum rate braking is applied. Aeroplane is stopped within calculated runway length. <u>Elements of Airmanship:</u> Windsock and other indicators are used to determine wind velocity. Allowance for wind velocity and turbulence is made during approach and landing. Situation awareness is maintained. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Surface conditions are allowed for. Runway is vacated as soon as practicable. Local and published noise abatement requirements and curfews are observed.

UNIT: 21. MANAGE ABNORMAL SITUATIONS (CPL)

FLYING STANDARD

Elements	Performance Criteria
21.1 Manage engine failure after take-off	• Immediate actions are performed in accordance with Flight Manual/POH. • A landing area within gliding distance is selected, emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed.
21.2 Manage engine failure elsewhere in circuit	• Immediate actions are performed in accordance with Flight Manual/POH. • A landing area within gliding distance, on the aerodrome or elsewhere**,** is selected. • Emergency procedures are performed in accordance with Flight Manual/POH and the aeroplane is landed if the engine cannot be restarted.
21.3 Perform forced landing	• Immediate actions are performed in accordance with Flight Manual/POH. • Landing area within gliding distance is selected, all emergency checks are performed in accordance with the Flight Manual/POH, and if an engine restart is not achieved a controlled landing is performed.
21.4 Conduct precautionary search and landing	• Air Traffic Services are advised of intentions if possible. • Landing area is selected and inspected for approach, landing distance and surface, and overshoot clearance and aeroplane is landed.
21.5 Manage abnormal situations	• Abnormal situation involving fuel, electrical, airframe, flight instrument, flight control, engine or radio/navigation aid systems, fire, smoke, fumes and ditching are identified. • Appropriate emergency procedures are conducted in accordance with Flight Manual/POH and published procedures while maintaining control of the aeroplane.

UNIT: 21. MANAGE ABNORMAL SITUATIONS (CPL)

ASSESSMENT GUIDE

Elements	Evidence
21.1 Manage engine failure after take-off	Nose is immediately lowered to maintain best gliding speed (+10 -0 Kts). Aeroplane is balanced. Suitable landing area is selected. Turns are minimised. Undercarriage and flaps are lowered as required. Emergency procedures are conducted in accordance with approved checklist. Radio is used to advise of emergency. Passengers are briefed about flight situation, brace position and harness is security. Engine shutdown checks are completed in accordance with approved checklist. Aeroplane is landed. Elements of Airmanship: Action plan is determined for an engine failure after take off. Action plan includes not turning back towards airfield after engine failure unless above a safe altitude.
21.2 Manage engine failure elsewhere in circuit	Glide attitude is immediately selected (+10 -0 knots). Aeroplane is balanced. Aeroplane is trimmed. Suitable landing area is selected. Wind strength is considered when selecting landing area. A landing area is selected on the aerodrome from any leg of the circuit if height is sufficient. Immediate actions are completed. Radio is used to advise of emergency and pilots intentions. Passengers are briefed about situation and bracing position. Trouble checks are conducted in accordance with approved checklist procedures. Engine restart is attempted if height is sufficient. Undercarriage and flaps are lowered when landing is assured. Shutdown checks are performed in accordance with approved checklist procedures. Aeroplane is landed with minimum injury to pilot or passengers. Aeroplane is landed with minimum damage to property. Aeroplane is vacated expeditiously. Elements of Airmanship: Awareness of potential forced landing areas in aerodrome vicinity is demonstrated. Awareness of height loss requirement to complete 180 degree gliding turn is maintained. Action plan complies with established procedures.
21.3 Perform forced landing	Excess speed is used to maintain height. Perform immediate actions. Glide attitude is selected. Aeroplane is balanced. Aeroplane is trimmed. Surface wind direction and strength is established. Suitable landing area is selected. Plan is formulated. Approach path is controlled to ensure a safe landing is achieved in the nominated landing area. Forced landing pattern is executed and modified as required. Trouble checks are performed in accordance with aeroplane checklist. Emergency is declared to ATC/ATS/other aeroplanes detailing position and intentions and emergency transponder code is selected. Engine restart is attempted if the possibility of a successful start is evident. If engine will not start, shutdown checks are performed in accordance with approved checklist. Passengers are briefed about the situation, brace position and harness is secure. Plan is modified to adapt to changed conditions. Flaps and undercarriage are lowered as required. Aeroplane is vacated expeditiously after landing. ATC/other aircraft are advised of situation. Elements of Airmanship: Plan is made and modified as circumstances change. Any unavoidable obstructions are contacted when the aeroplane is on the ground (rather than while airborne). Passengers are briefed and managed.

UNIT: 21. MANAGE ABNORMAL SITUATIONS (CPL)

ASSESSMENT GUIDE

Elements	Evidence
21.4 Conduct precautionary search and landing	Decision to conduct precautionary landing is made before conditions deteriorate to an unsafe stage. Pre descent checks are performed. ATC is advised using an 'URGENCY' call (PAN). Aeroplane is set up in bad visibility configuration if applicable. Suitable landing area is selected. Wind direction and strength is observed. Length of landing area is confirmed by visual assessment or timing. Circuit is conducted at 500 feet or 100 feet below cloud. Turning points for circuit are selected in bad visibility. Landing strip is flown over at 100 feet and to the right or directly over the landing strip depending on the forward visibility from the aircraft type and surface condition is assessed. Any obstacles on the approach and overshoot are observed and avoided. Landing surface is checked for any hazards. Overshoot and climb to circuit height is conducted. Second circuit is conducted keeping the field in sight. Dummy approach is completed rechecking surface and drift. Final circuit is completed and aeroplane is landed according to prevailing conditions with a short landing if applicable. ATC/other aeroplanes are advised of present situation and intentions. Aeroplane is secured. <u>Elements of Airmanship:</u> Decision to perform precautionary landing is made within time, light, weather or fuel constraints. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain. Collision with terrain is avoided. Situation awareness is maintained.
21.5 Manage abnormal situations	Abnormal situations are identified and confirmed. Control of aeroplane is maintained. Emergency procedures are conducted in accordance with Flight Manual or POH. Any applicable published emergency procedures are conducted. ATC/other stations are advised of present situation, intentions and assistance required. <u>Elements of Airmanship:</u> Approved Flight Manual/POH and published procedures are consistently applied. Situation awareness is maintained. Standard procedures are always used.

UNIT: 22. MANAGE FUEL (CPL)

FLYING STANDARD

Elements	Performance Criteria
22.1 Plan fuel requirements	• Duration of flight is determined. • Fuel reserve requirement is determined according to regulation. • Total fuel requirement is determined according to regulation.
22.2 Manage fuel system	• Fuel system is operated in accordance with Flight Manual/POH. • Fuel requirements are revised as circumstances change. • Aeroplane is configured to achieve best range. • Aeroplane is configured to achieve best endurance.
22.3 Refuel aeroplane	• Aeroplane is refuelled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

ASSESSMENT GUIDE

Elements	Evidence
22.1 Plan fuel requirement	Fuel required for duration of flight is calculated (+5 -0 minutes). Fuel load at intermediate stops is adjusted to maximise payload requirements. Mandatory fuel reserve is calculated. Fuel allowance is made for icing conditions. Fuel allowance is made for diversion to an alternate aerodrome when forecast meteorological conditions are below alternate minima. Fuel allowance is made for holding or diversions during periods of 'intermittent' (INTER) or 'temporary' (TEMPO) deterioration of weather conditions below alternate minima. Fuel allowance is made for ATS routing, departure and arrival procedures which are anticipated. Fuel allowance is made for pressurisation failure if applicable. Fuel log is prepared for navigation. Any necessary additional fuel reserves are calculated. Total fuel required for flight and all reserves is calculated. Fuel planning is revised as flight circumstances change before or during flight. <u>Elements of Airmanship:</u> Contingencies are anticipated. Correct grade of fuel is used. Situation awareness is maintained.

UNIT: 22. MANAGE FUEL (CPL)

ASSESSMENT GUIDE

22.2 Manage fuel system	Fuel system configuration is identified and controlled according to Flight Manual/POH. Fuel tank selection is applicable to the phase of flight. Fuel selector switch is positioned to ensure delivery of fuel to engine. Fuel boost /auxiliary pumps are used on take-off, landing and as required in Flight Manual/POH. Mixture control is used for economic and efficient flight. Carburettor heat is used only when required. Fuel cross feed is used to balance aeroplane if applicable. Fuel contents and flow are monitored. Fuel usage is recorded. Fuel caps are securely fastened after refuelling. Fuel drain cocks are confirmed closed. *Aeroplane is configured to achieve best range:* Total fuel remaining is recorded. Revised range is calculated. Most appropriate altitude is selected to achieve best range. Power setting to achieve best range is established (± 50 RPM ± 0.5" MAP). Best range speed is established. Mixture is leaned to optimum setting. Carburettor heat set to prevent icing. *Aeroplane is configured to achieve best endurance:* Total fuel remaining is recorded. Revised endurance is calculated. Most appropriate altitude is selected to achieve best endurance. Power setting to achieve best endurance is established (± 50 RPM ± 0.5" MAP). Best endurance speed is achieved (+5 -0 knots) and control of aeroplane maintained. Mixture is leaned to optimum setting. Carburettor heat set to prevent icing. <u>Elements of Airmanship:</u> Fuel contents are visually inspected and quantities confirmed before flight. Fire hazard precautions are observed. Occupational Health & Safety (OH&S) procedures are followed. Potential hazards are anticipated and minimised. Actions are performed to ensure personnel and property safety.
22.3 Refuel aeroplane	Refuelling procedures and safety precautions are identified. Minimum safety distance requirements between aeroplane and buildings, refuelling and electrical equipment are complied with. Fire hazards are removed. Fire extinguisher is available. Fuel contamination and water checks are completed. Correct grade of fuel is used. Grounding procedures are followed. Fuel caps are securely fastened after refuelling. Fuel drain cocks are confirmed closed. <u>Elements of Airmanship:</u> Aeroplane is refuelled in accordance with Flight Manual/POH, workplace health & safety and local procedures.

UNIT: 23. CONTROL AEROPLANE SOLELY BY REFERENCE TO FULL INSTRUMENT PANEL (CPL)

FLYING STANDARD

Elements	Performance Criteria
23.1 Perform manoeuvres	• Maintain straight and level flight, climb, descend, perform rate one turn, recover from unusual attitudes and resume controlled flight solely by reference to full instrument panel.

ASSESSMENT GUIDE

Elements	Evidence
23.1 Perform manoeuvres	*Before instrument flight:* Pitot/static systems are checked for serviceability and condition. Flight instruments are checked for condition and serviceability. Instrument power sources are checked. The attitude indicator pitch datum is set to the in-flight straight and level attitude appropriate for the aircraft type. Turn, heading and attitude indicators are functionally checked while taxiing. *During instrument flight:* Attitude indicator is used as primary control instrument for pitch and roll. Performance instruments are used with selective radial scan to confirm attitude. Other instruments and indicators are interrogated and reacted to appropriately. Applicable scan technique for straight and level stage of flight is used. Lag in performance instruments is anticipated and allowed for. Aeroplane is balanced. Timely instrument interrogation rate is practiced. Engine instruments are monitored and reacted to. Straight and level flight is achieved at changing airspeed (± 10 knots ± 10°, ±150 ft). Straight and level flight is achieved in different flight configurations. The change-check-hold-adjust-trim technique of instrument flying is utilised. *Additional evidence while climbing and descending during instrument flight:* Climb is achieved at nominated speed (± 5 knots). Descent is performed at 500 feet per minute (±150 ft/min) at a nominated speed (± 10 kts). Level off altitudes-are anticipated. *Additional evidence while performing turns during instrument flight:* Applicable selective radial scan technique for turns during level, climbing and descending stages of flight is used. Rate one turns onto specific headings are completed (±10° ±150 ft). Turning and acceleration errors are compensated for when using magnetic compass. *Additional evidence while simulating establishment of VFR after unintentional entry into cloud:* Straight and level flight is maintained on full instrument panel. Present heading is observed and reciprocal heading calculated. Rate one turn onto reciprocal heading is performed. When on reciprocal heading, wings are maintained level and time is allowed to exit cloud. VFR are established. *Additional evidence while recovering from unusual attitudes:* Low or decreasing airspeed attitudes are compensated for by application of power and lowering of nose to horizon. High or increasing airspeed is corrected by reducing power, levelling wings parallel to horizon and raising nose to horizon. Attitude indicator is used as primary control instrument. Bank angle is corrected by paralleling wings to horizon using attitude indicator. Straight and level attitude is achieved without excessive oscillations at the horizon (± 200 ft of height at which aircraft nose first passed through horizon). Performance instruments are used to confirm attitudes. <u>Elements of Airmanship:</u> Adverse physiological sensations are accepted but ignored. Corrective control movements are smooth and excessive muscular force avoided. Instrument power sources are checked for serviceability and monitored in flight. Heading instruments are synchronised before take-off and every 10 minutes in flight.

UNIT: 24. MANAGE PASSENGERS (CPL)

FLYING STANDARD

Elements	Performance Criteria
24.1 Brief passengers	• Passengers are briefed before flight and in emergencies in accordance with regulations, orders and operations manual.
24.2 Aid and assist passengers	• Passenger comfort and wellbeing is provided for within the limits of aeroplane safety. • Passengers are controlled on the ground and in the air in accordance with regulations, orders and operations manual.

ASSESSMENT GUIDE

Elements	Evidence
24.1 Brief passengers	Passengers are briefed on details of the flight. Procedures to avoid interference with flight controls are explained. Smoking requirements are explained. Secure stowage of hand luggage is demonstrated. The use of flotation devices is demonstrated where applicable. Operation of doors and escape hatches is demonstrated. Securing and release of safety harness is demonstrated. Use and location of fire extinguishers is explained. Use of oxygen equipment is demonstrated if applicable. Use of safety equipment is demonstrated. Passengers are briefed on emergency procedures on the ground and in the air.
24.2 Aid and assist passengers	Use of fresh air vents is demonstrated. Position of airsickness bags is demonstrated. Control of passengers is exercised on the ground and in the aeroplane. Passengers are managed in an emergency. Cabin temperature is controlled. <u>Elements of Airmanship:</u> Clear communication is established and maintained with passengers. Passenger safety and wellbeing is ensured. Situation awareness is maintained.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

FLYING STANDARD

Elements	Performance Criteria
25.1 Prepare chart and flight plan	• Charts suitable for the intended flight are selected and prepared. • Applicable information is obtained, analysed and applied to produce a flight plan which details tracks, distances, times and fuel requirements to reach a destination.
25.2 Comply with airspace procedures	• Air traffic clearances are obtained and complied with. • Airspace procedures are complied with.
25.3 Conduct departure procedures	• Pre flight planning and cockpit organisation is used to ensure charts, documentation and navigational calculator are accessible from the control seat. • Track is intercepted within 5 nautical miles of airfield and departure time is recorded.
25.4 Navigate aeroplane enroute	• Planned route is maintained, In flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and, pre descent or navigation turning point checks are executed.
25.5 Navigate at low level and in reduced visibility	• Pre descent or navigation turning point checks are executed and VFR is maintained, planned route is maintained, In flight documentation is completed in accordance with regulations, ETAs are checked and revised as required and a situation awareness alternate plan is formulated and applied if required.
25.6 Perform lost procedure	• Position is fixed, new track to destination attainable within limits of fuel and daylight is determined, track to destination is maintained, ETAs are calculated, radio, navigation aids and transponder are used for assistance where fitted. • A timely precautionary search and landing is planned if lost/no fuel/ no light.
25.7 Perform diversion procedure	• New route is determined and maintained, ETAs are calculated ±2 minutes, fuel requirements are recalculated and airspace procedures are complied with. • ATC is advised if possible.
25.8 Use radio navigation aids	• Radio navigation aids are tuned and tested, beacons identified and used for their respective navigational functions. • En route radar is used for position information and tracking assistance and GPS is used to confirm position, track and navigation information.
25.9 Execute arrival procedures	• Applicable information is obtained and applied, radio communications established and arrivals are executed at aerodromes in accordance with airspace requirements.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

ASSESSMENT GUIDE

Elements	Evidence
25.1 Prepare chart and flight plan	A topographical World Aeronautical Chart (WAC) suitable for the flight and any diversions is selected. Planning Chart Australia (PCA), En Route Chart (ERC) and Visual Terminal Chart (VTC) for pre flight planning and airspace assessment are used. Control, Prohibited, Restricted and Danger areas that conflict with the flight track are identified. All tracks required for the flight are drawn on the chart. Controlled airspace is identified and avoided by tolerances specified in AIP-RAC if applicable. Plan applicable altitudes/flight levels and tracking tolerances to avoid controlled airspace when required. Distance markers are constructed along track if applicable. Track error/drift error lines are constructed if applicable. Any additional information required for the flight is included on the chart. Charts for use in flight are folded secured and accessible. Track, distance and Lowest Safe Altitude are transferred from chart to flight plan. Suitability of en route destination and diversion aerodromes is determined. Obtain and interpret an aviation meteorological forecast. Obtain and interpret all NOTAMs applicable to the flight. Most suitable VFR cruising altitude or flight level is selected and entered. Wind velocity obtained from a meteorological forecast is entered on flight plan. TAS, heading, ground speed and time intervals are calculated ± 5 kts, ±2 min ±3°. Fuel requirements for flight and reserves are calculated ±5 minutes. Search and Rescue Time (SARTIME) is calculated. Beginning and end of daylight is allowed for. Calculated flight planning information is transferred to Flight Notification Form. Flight Notification Form is submitted to ATS 30 minutes before ETD if applicable. <u>Elements of Airmanship:</u> Pre flight planning is used to minimise in flight navigational workload. A decision to proceed with the cross country flight is made after analysis of meteorological and ATC conditions.
25.2 Comply with airspace requirements	Traffic clearance requirements are anticipated and planned for. Automatic broadcasting services are used to obtain information. Applicable aviation documents are consulted. Air traffic and airways clearances are requested using standard radiotelephone procedures. Clearances into controlled airspace are requested and obtained before entering controlled airspace. All clearances are complied with unless aeroplane safety is compromised. Amendments to clearances complied with unless aeroplane safety is compromised. Clearance limits imposed by Air Traffic Services are not exceeded unless aeroplane safety is compromised. <u>Elements of Airmanship:</u> Awareness of the air traffic situation is maintained. Controlled airspace is not entered without a clearance. Local and published noise abatement requirements and curfews are observed.
25.3 Conduct departure procedures	All navigation equipment and charts are secured in a safe and accessible place. All departure clearances and instructions are obtained and complied with. QNH is set. First heading is accurately set from overhead the aerodrome or after intercepting outbound track (±5° within 5 nautical miles of aerodrome). Heading indicators are accurately synchronised. Changes to planned headings are recorded. Departure time is recorded allowing for an overhead the airfield or en route departure procedure. ETA is calculated for first turning/reporting point (±2 minutes). <u>Elements of Airmanship:</u> Comprehensive pre flight planning is utilised to reduce the workload airborne. Orientation is always maintained. Emphasis is placed on controlling the aeroplane before conducting navigation administration or communication. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Local and published noise abatement requirements and curfews are observed.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

ASSESSMENT GUIDE

Elements	Evidence
25.4 Navigate aeroplane enroute	Navigation log is maintained. Fuel log is maintained. Revised ground speeds are calculated ± 10 knots. Proportional navigation is used to calculate time intervals. Revised ETAs are calculated ± 2 minutes. Revised fuel endurance is calculated when required. Deduced/dead reckoning (DR) technique is used to establish estimated position. Flight Rules (VFR) are complied with. Area QNH is set. Height is maintained ± 100 feet. External visual features that assist maintenance of heading (±5°) are selected. A time based 'map to ground' chart reading technique is used. Chart is oriented in direction of track. Visual lead in features are used to identify fixes. Ground features are identified by shape, dimensions, contrast and colour and uniqueness. Fixes are identified by two or more features. Position is fixed at least once every 30 minutes. Calculate track error and headings to re establish on track navigation. Pre descent and turning point checks are performed. Visual lines of bearing are used to establish position. Awareness of en route and destination weather conditions is maintained and changes reacted to. Distance between ground features is accurately compared to distance on charts. Demonstrate ability to maintain heading using magnetic compass only (±10°). Radio communications are maintained with ATS/ATC. An early decision is made to turn back if weather conditions or darkness. Preclude completion of flight. <u>Elements of Airmanship:</u> Comprehensive pre flight planning is utilised to reduce the workload airborne. A navigation cycle that ensures accurate navigation is used. Awareness of air traffic is maintained. Emphasis is placed on controlling the aeroplane before conducting navigation administration. Deteriorating situations are recognised and early corrective action is taken. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain.
25.5 Navigate at low level and in reduced visibility	Pre descent checks are completed from memory. Fuel tank selection is confirmed and mixture is adjusted. Heading indicators are synchronised. ATS is advised. QNH is set. Position is fixed and recorded before descent. VFR are maintained. Wind and turbulence are allowed for. Heading is maintained ± 5°. Height is maintained to a minimum 500 feet AGL (+100 -0 ft). ETAs are revised ± 2 minutes. Suitable features are selected to assist navigation. Position is fixed at least once every 30 minutes. Bad visibility configuration is adopted if weather conditions and visibility are unfavourable. Changed visual aspects of ground features at low level are allowed for. Noise sensitive stock and areas are avoided. Refraction and diffusion caused by heavy precipitation is allowed for. Bad weather circuit is completed at destination if required. <u>Elements of Airmanship:</u> Collision with terrain is avoided. Awareness of changing weather conditions is maintained. A safe alternative plan of action is formulated and applied if required. Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Power lines are marked on a chart and avoided. Situation awareness is maintained.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

ASSESSMENT GUIDE

Elements	Evidence
25.6 Perform lost procedure	Pilot remains calm. A prominent 'anchor point' is selected and visual contact is maintained. Aeroplane is configured to achieve best endurance speed at present or most efficient altitude. Flight details and flight plan are examined and any likely error is determined. The heading flown is checked. DR position is determined using heading and ground speed since last fix. At DR position a Most Probable Position (MPP) is constructed using radius based on 10% of DR distance flown since last positive fix. Significant features are looked for, working from prominent to lesser features. A time based 'ground to map' chart reading technique is used. Position located and recorded. A new track and distance are planned. Revised ETA is calculated. Radio navigation aids are used to assist. Radio is used for assistance. Transponder is used for assistance. A timely precautionary search and landing is planned if still lost/minimum fuel/ darkness occurs. <u>Elements of Airmanship:</u> Chart features are not made to 'fit' what is seen on the ground. Early plan is made for a precautionary landing if required. Emotional stability is maintained.
25.7 Perform diversion procedure	Most suitable diversion is selected. Present position is fixed and recorded. Track and distance from present position to destination is calculated. Lowest safe altitude is calculated. CTA, CTR, Prohibited, Restricted and Danger areas are identified and allowed for. Most suitable cruising altitude/level is selected. Heading and ground speed is calculated. ETAs are calculated (± 2 minutes). Position is fixed at least once every 30 minutes. SARWATCH is amended if required. Fuel requirement is calculated (± 5 minutes). ATS is advised of intention to divert. Revised airways/air traffic clearance is obtained. Destination and en route weather is confirmed. VFR are maintained. Navigation aids are used. <u>Elements of Airmanship:</u> All required airways clearances are obtained. SARWATCH is cancelled after arrival.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

ASSESSMENT GUIDE

Elements	Evidence
25.8 Use radio navigation aids	*ADF:* The Automatic Direction Finder (ADF) is correctly tuned and tested, and the NDB identified. The aeroplane is within the published range of the NDB. Bearings from the NDB are used to fix aeroplane position. The NDB is used as a homing aid. The indications are observed, interpreted and reacted to after passing overhead the NDB. *VHF Omni-Directional Radio Range (VOR):* The VOR receiver is tuned and tested and the VOR beacon identified. The aeroplane is within the published operating range of the VOR. Off flag is observed and reacted to. Omni Bearing Selector is used to select the course required. TO - FROM indicators are interpreted without error. Bearings from the VOR are used to fix aeroplane position. The VOR is used as a homing aid. The indications are observed, interpreted and reacted to after passing overhead the VOR. *Distance Measuring Equipment (DME):* The DME receiver is tuned and tested and the DME station identified. The DME us used to indicate distance from the DME beacon. *Use en route and terminal RADAR:* En route and terminal and radar facilities are used to assist navigation. *Global Positioning System (GPS):* Flight plan waypoints are entered into GPS. Diversion aerodromes way points are entered if applicable. Tracks and distances reading on GPS is checked to correspond with flight plan. Portable GPS is positioned to allow minimum antenna shielding. Power source is connected and serviceable. Waypoints are confirmed with identified ground fixes during en route navigation at least once every 60 minutes. <u>Elements of Airmanship:</u> All radio navigation aids are tuned, identified and tested before use. Potential problems are identified and avoided.

UNIT: 25. NAVIGATE AEROPLANE (CPL)

ASSESSMENT GUIDE

Elements	Evidence
25.9 Execute arrival procedures	Aerodrome information is obtained from ERSA, ATIS or ATS and applied. Applicable NOTAMs are examined and interpreted. Radio communications are established. Landing direction is established. *Execute arrival at an uncontrolled aerodrome:* Aerodrome is overflown at 1500 feet AGL and windsock, signal square and unserviceability markers are observed. Circuit is joined from the dead side. Alternatively, the circuit is entered at 1000 feet AGL and a minimum of three legs of the circuit are flown. A circuit and landing is completed. ATS is advised of arrival. SARWATCH is cancelled. *Execute arrival at Common Traffic Advisory Frequency (CTAF) or a Mandatory Broadcast Zone (MBZ) aerodromes:* ATIS is obtained if available. Inbound call is made by nominated distance or position. Circuit is entered by flying three legs of the circuit or by a straight in approach in accordance with MBZ procedures. All air traffic is identified and avoided. SARWATCH is cancelled. *Execute arrival at a General Aviation Advisory Procedure (GAAP) aerodrome:* ATIS is obtained if available. Inbound radio call is made by GAAP approach points. Landing instructions are complied with. SARWATCH is cancelled. *Execute arrival at a Control Zone (CTR):* ATIS is obtained if available. Airways clearances are complied with. Landing instructions are complied with. SARWATCH is cancelled. <u>Elements of Airmanship:</u> Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain. Awareness of air traffic is maintained. Situation awareness is maintained. Local and published noise abatement requirements and curfews are observed.

UNIT: 26. CONTROL AEROPLANE SOLELY BY REFERENCE TO LIMITED INSTRUMENT PANEL (CPL)

FLYING STANDARD

Elements	Performance Criteria
26.1 Perform manoeuvres	• Maintain straight and level flight, climb, descend, perform rate one turn, recover from unusual attitudes and resume controlled flight solely by reference to limited instrument panel.

ASSESSMENT GUIDE

Elements	Evidence
26.1 Perform manoeuvres	*During instrument flight:* Suction gauges and instrument power sources are checked and reacted to. Failure of the attitude indicator and gyrocompass or directional gyro (DG) is recognised by warning indicators or conflict between attitude indicator and performance instruments. After a primary attitude and compass or DG instrument failure the requirement to use limited panel instrument technique is accepted. The airspeed indicator, VSI and altimeter are used to confirm pitch attitude. The turn needle/coordinator is used as the primary bank-indicating instrument. Lag in performance instruments is anticipated and allowed for. Aeroplane is balanced. The applicable scan technique for each stage of flight is used. Timely instrument interrogation rate is used. The change-check-hold-adjust-trim technique of instrument flying is used to perform attitude changes. Accurate trimming is used. Smooth adjustments are made when changing attitude and bank. *Additional evidence while straight and level using limited instrument panel:* The VSI, and altimeter are used in a selective radial scan to confirm level flight attitude (± 200 feet ±10 kts). The turn needle/coordinator is used as the primary control instrument to maintain straight flight (± 20°). The compass is used to determine headings. All other performance and engine instruments (± 0.5" MAP ± 50 RPM) are included in radial scan. *Additional evidence while climbing and descending during limited panel instrument flight:* The ASI is used as the primary instrument to confirm pitch attitude. The altimeter is used as the primary performance instrument when levelling from a climb or descent. Climb/descent power is set (± 0.5" MAP ±50 RPM). *Additional evidence while performing turns during limited panel instrument flight:* Altimeter is used as primary performance instrument to maintain height (±200 ft). Rate one turns are used to turn on to heading (± 15°). During climbing and descending turns the ASI is used as the primary pitch attitude indicating performance instrument during selective radial scan (± 15 knots). Turning and acceleration errors are compensated for. *Additional evidence while simulating establishment of VFR after unintentional entry into cloud:* Straight and level flight is maintained using limited panel instrument technique. Present heading is observed and reciprocal heading calculated. A rate one turn is made onto reciprocal heading using timing or ONUS technique. During the turn, 'g' load is maintained as close to plus one as possible. When established on reciprocal heading time is allowed to exit cloud. VFR are established. *Additional evidence while recovering from unusual attitudes:* Low or decreasing IAS is controlled by application of power and lowering nose until IAS starts to increase or stops reducing. Altimeter is used to confirm level attitude. Straight and level attitude is achieved without excessive oscillations at the horizon (± 250 ft of height at which aircraft nose first passed through horizon). High or increasing airspeed is controlled by ensuring 1'g' flight, reducing power if required, level wings using turn needle/coordinator and raising nose until IAS starts to decrease or stops increasing. <u>Elements of Airmanship:</u> Adverse physiological sensations are recognised but ignored. Corrective control movements are smooth and excessive muscular force avoided. Time is allowed for performance instruments to stabilise.

UNIT: 27. RECOVER FROM SPIN (CPL)

FLYING STANDARD

Elements	Performance Criteria
27.1 Recover from spin	• Pre-manoeuvre checks are performed. • Direction of spin is identified, yaw is eliminated, aeroplane is unstalled and balanced flight resumed.

ASSESSMENT GUIDE

Elements	Evidence
27.1 Recover from spin	Aeroplane is prepared for spin manoeuvre. Pre manoeuvre checks are carried out from memory. Airspace is cleared. Lookout above and below is maintained. Power is reduced. As IAS decreases, altitude is maintained. Control column is moved rearwards. Control column is moved fully back and full rudder is applied in the direction of intended spin prior to or at point of stall and opposite aileron is applied if needed. Stable spin is entered. Direction of spin is confirmed. Turn indicator/coordinator is observed. IAS is observed. Position of skid ball observed. *Recover from spin:* Throttle is closed. Ailerons are centralised. Full opposite rudder to direction of spin is applied. After a short pause, control column is moved forward until rotation ceases and wings unstall. When rotation stops rudder is centralised. Wings are paralleled to horizon using ailerons. Aeroplane is recovered from dive. Power is applied as nose reaches horizon. *Enter spiral dive:* Throttle is closed. Height is maintained. Control column is moved rearwards. Before point of stall rudder is applied to yaw aeroplane. Aileron is used to assist roll. Nose is manoeuvred well below the horizon. Increasing IAS is recognised. Increasing bank angle is recognised as control column is moved backwards. ASI, altimeter, and turn coordinator/indicator readings are observed. Increasing 'g' forces are observed. *Recover from spiral dive:* Throttle is closed. Wings are paralleled to horizon using ailerons. Rolling 'g' limit is not exceeded. Recovery from dive is positive and smooth. <u>Elements of Airmanship:</u> Lookout is maintained above and below aeroplane. Height loss awareness is maintained. The 'g' and manoeuvre limits of the aeroplane are not exceeded. Local and published noise abatement requirements and curfews are observed.

SUBSECTION 5 – FLIGHT TEST FORMS

1.13.1. Flight tests

There are three flight tests relating to this syllabus. They are:

1 General Flying Progress Test (GFPT);

2 PPLA flight test; and

3 CPLA flight test.

Flight test proforma are available via the CASA website (see para 2.5.3 below). The appropriate proforma must be completed for every test conducted, whatever the result.

1.13.2. Application

Each proforma consists of an application form and a record of the flight test on the reverse.

A candidate for a flight test must ensure that the application form section is completed, including the Chief Flying Instructor's recommendation, prior to commencement of the test. The completed form should be provided to the testing officer.

1.13.3. Flight test proforma

The flight test proforma is divided into four sections:

1 General requirements.

2 Ground.

3 Flying.

4 Airmanship.

The proformas are numbered for identification as detailed below. (To access the proforma, click the link.)

- GFPT Test (Aeroplane) Application – Form 640;
- Private Pilot (Aeroplane) Licence Application – Form 077; and
- Commercial Pilot (Aeroplane) Licence Application – Form 090.

1.13.4. General requirements

This section outlines the general requirements applicable to the conduct of the test including those relating to planning of the flight.

1.13.5. Ground

The ground section consists of items that must be tested orally before flight and includes satisfactory knowledge of all the items listed on the candidate's Knowledge Deficiency Report. The Ground section of the test must be passed before the flying section may be attempted.

1.13.6. Flying

This section lists the units and elements of the Day VFR Flying Training Syllabus that must be examined in the flight test. In the CPLA test form flying is subdivided into general and operational flying. The flight test form uses the same units, elements and numbering as the Day VFR Syllabus to enable candidates and testing officers to easily refer back to the syllabus. The standard required to achieve a pass in an element in the flight test is the standard specified in the assessment guide in the syllabus.

Candidates should understand that perfection of performance is not the essential requirement to achieve a pass in the flight test. The aim of the test is to demonstrate the candidate's ability to operate the aeroplane safely and to make all the operational decisions necessary for the conduct of the flight. To achieve a Pass in the flight test a candidate should demonstrate the following standard:

- correct techniques and procedures, as specified in the assessment guide, were used;
- errors in height, airspeed, heading and balance were not sustained;
- the aeroplane was operated within published limitations;
- all operations complied with regulatory and airspace requirements; and
- sound airmanship was displayed throughout the flight.

Some latitude is allowed to GFPT and PPLA candidates in the performance of a manoeuvre. Where an error is made in a particular element, provided that it is recognised and appropriate corrective action taken, a second attempt at the unsuccessful manoeuvre may be permitted. At the CPLA level the successful outcome of any manoeuvre should not be in doubt.

Failure in any item listed on the flight test proforma will result in an overall fail assessment for the flight test, however at the discretion of the testing officer a candidate may be credited with passes in those items successfully completed and those items will not have to be repeated in a subsequent test.

1.13.7. Airmanship

The airmanship section includes aspects of airmanship that can be used to assess the overall performance of the candidate in the flight test. The assessment guide in the syllabus gives detailed information on those aspects of airmanship relating to specific elements and these should be used as guidance in forming the overall assessment.

Go To Section 1 **Go To Section 3**