

Contents

CASA Exam Instructions	Page	2
Exam One	Page	4
Exam One Answers	Page	40
Exam Two	Page	13
Exam Two Answers	Page	40
Exam Three	Page	23
Exam Three Answers	Page	40
Exam Four	Page	31
Exam Four Answers	Page	40
IFR Reference Index	Page	41

Instrument Rating Examination

Exam instructions

Time allowed for examination

3 hours 30 minutes

Material supplied with examination

Answer Sheet

Scribble Pad

Permissible material for examination

(to be supplied by candidate)

CAR,

CAO Parts 20 to 95.2,

CAAP No: 234-1(0), and

AIP complete which includes -

* AIP Book (including AIP SUP)

* En Route Supplement Australia (ERSA)

* Departure and Approach Procedures (East and West)

* Terminal Area Charts (TAC) 1 to 4

* En Route Charts (ERC) (Low) 1 to 8

* Planning Chart (AUS PCA)

For rules, procedures, and aeronautical information including chart interpretation, the examination questions are based solely on the above-permitted publications.

As provided under CAR 233(1)(h), on a candidate's own preference, Jeppesen Airway Manual may be used as examination reference in place of CASA's AIP complete, but if any differences between CASA and Jeppesen documents result in the selection of incorrect answer(s), CASA will NOT accept this consequence as a basis for re-mark.

NO OTHER REFERENCE MATERIAL IS PERMITTED

Other IREX information

Preparation of examination papers requires extensive lead-time, and therefore it is not possible to take into account information from unscheduled documents, such as NOTAM. However, if a candidate feels that a question has been affected by NOTAM this should be noted in the comment sheet supplied.

The AIP SUP is an integral component of the AIP complete and is issued in accordance with a published schedule. Therefore it may be examined.

Commonly used abbreviations (not in AIP)

PIC	pilot in command
AICUS	acting in command under supervision
OBS	omni bearing selector/selection
OBI	omni bearing indicator
CDI	course deviation indicator/indication

Pass percentage

The pass percentage for the written IREX shall be 'not less than 70%' of the total possible marks. However, a candidate with less than 100% achievement will be required to present the critique comments (issued with the result slip) to the Approved Testing Officer (ATO) prior to the flight test.

Instrument Rating Examination

The ATO will orally test the candidate on the areas listed in the critique. As a requirement for proceeding with the flight test, a candidate must achieve 100% in the oral examination.

IMPORTANT

The following page contains examination information that pertains to most of the questions, save where a particular question states or indicates otherwise.

IREX examination aircraft data

Type	Twin piston-engine
Callsign	VH-OZY
Max. AUW	Less than 5700 kg
Speed	Cruise TAS 180 knots
Cross-wind component	Category B 20 knots maximum

STANDARD equipment fit: Fully equipped for IFR flight including -

- * Two VOR/ILS with glideslopes and marker beacons
- * Two fixed-card ADF
- * 1 x DME
- * 1 x (IFR approved) GPS
- * Mode C transponder
- * 3 axes autopilot, but no flight director nor approach-capable system
- * Two VHF communication
- * Single HF communication
- * Weather radar (30 kW power output rating)
- * Life jackets
- * Life raft

Unless otherwise stated in the question, assume all navigation aids and aircraft equipment are serviceable, GPS RAIM is available, and you are qualified to fly as PIC, instrument procedures based on these nav-aids (in any combination)

The aircraft does NOT have: oxygen, pressurisation, de-icing/anti-icing, auto-feathering

Operations

Unless otherwise stated in the question, the examination relates to CHTR flight operating to IFR procedures

Fuel calculations

Company fuel policy is based on CAAP 234-1(0)

All fuel calculations will be in minutes

- * do not separately plan climbs and descents
- * do not add any time allowance for taxi, instrument approaches and overshoots

Instrument Rating Examination

Exam 1

1. You intend on conducting a single pilot CHTR flight under the Instrument Flight rules. Your previous flight times are as follows:
- 150 hrs as PIC of single pilot Multi Engine aircraft under IFR in the previous 90 Days.
 - 30 hours as PIC of Multi crew operations under IFR in the previous 90 days.
 - 15 hours actual instrument flight time in a single pilot IFR operation in the previous 90 days
 - 2 NDB approaches and 3 ILS approaches as PIC of multi crew IFR flight in the previous 90 days.

The MINIMUM additional requirement to satisfy IFR recency requirements is:

- A. 3 hours instrument flight time as a single pilot operation including one instrument approach conducted as a single pilot operation.
 - B. Nil.
 - C. 1 instrument approach conducted as a single pilot in an approved synthetic trainer.
 - D. 1 hour of ICUS instrument flight time conducted as single pilot including one instrument approach as a single pilot operation.
2. You have the following Aerodrome forecast in hand.

YPPH TAF AMD YPPH 022214Z 0024 04005KT 9999 -DZ BKN008
FEW025 SCT040
INTER 0002 5000 SHRA BKN008
FM03 26010KT 9999 SCT025 SCT040
T 14 19 20 19 Q 1019 1018 1017 1018

Your aircraft is equipped with 2 ADF's, 1 VOR with Glideslope 2 Markers and an International DME.

ETA YPPH is 1100 WST.

Which of the following statements regarding the provision of an alternate or Holding fuel is correct.

- A. No alternate or holding fuel is required.
 - B. 30 mins holding fuel is required
 - C. An alternate or 30 mins holding fuel is required.
 - D. An alternate is required.
3. You intend on conducting an IFR CHTR flight at night carrying passengers in a C310. The flight will be conducted as a single pilot operation. Which of the following items of equipment is not required for this flight ?
- A. 2 Landing lights
 - B. Passenger compartment lighting.
 - C. An intensity control for instrument lighting.
 - D. Emergency flares.

4. You are rostered to conduct an IFR Charter Flight in a Cessna C310 aircraft from Darwin (NT) to Kununurra (WA) and return on November 7, 2000.

The aircraft is fitted with an autopilot approved for IFR Charter operations. The Maintenance Release indicates the altitude hold component on the autopilot became unserviceable on November 4, 1999. Your aircraft does not have a permissible unservicability schedule for an unserviceable autopilot.

Which of the following statements is correct?

- A. You may conduct the flight as an autopilot is only required for RPT, Air Ambulance and Flying Doctor operations.
 - B. You may not conduct the flight unless the autopilot is serviceable
 - C. You may conduct the flight if a second pilot is carried who is endorsed on type and holds at least a current co-pilot instrument rating and the aircraft has 2 control seats with fully functioning dual controls.
 - D. You may conduct the flight as a single pilot operation.
5. The following is an extract from the ARFOR, which covers your intended flight.

60 AMEND AREA FORECAST VALID 010115 TO 011600 AREA 60.

AMD CLOUD:

BKN ST 0800/1500 IN SH/DZ TILL 03Z.

BKN ST 1000/3000 COAST, BASE 2000 INLAND TILL 03Z.

BKN CU/SC 2500/10000, BASE 3000 INLAND.

WEATHER:

SH/DZ OCEAN/COAST. FOG OVER LAND TILL 03Z AND AFTER 14Z.

VISIBILITY:

4000M DZ.

6000M SH.

FREEZING LEVEL:

5000.

ICING:

MOD IN CU.

Your track from point A to point B is 359° (M) and the LSALT is 3700'.

Your aircraft is not equipped with oxygen or De-Icing equipment.

The highest altitude you may plan for this flight is:

- A. A050
- B. A037
- C. A100
- D. A040

6. Refer to Perth, WA (YPPH).
Your C310 aircraft is fitted with 2 ADF's, 2 VHF Nav with glideslope and a DME. The flight manual indicates the PEC is 20'. You are the holder of a current CIR (M/E) with NDB & VOR endorsements. You decide that you will return to YPPH in the event of an engine failure after take off. Perth ATIS Indicates a W/V of 200/35. The take off Minima for this departure is :
- A. 550' AMSL cloud base, 2.0 km visibility
 - B. 280' AGL cloud ceiling, 2.0 km visibility
 - C. 270' AGL cloud ceiling, 2.0 km visibility
 - D. 300' AMSL cloud ceiling, 2.0 km visibility
7. You are conducting a flight to CAIRNS QLD. and at 1009 UTC you tuned to the VOLMET frequency to obtain the current aerodrome forecast. The forecast for CAIRNS will be next broadcast at:
- A. 1030 UTC
 - B. 1009 UTC
 - C. 1100 UTC
 - D. Broadcasts are continuous.
8. Refer to MELBOURNE, VIC (YMML)
You are cleared for a Owens Seven departure from Rwy 16.
For a groundspeed of 130 kt the minimum rate of climb required to 1500' is:
- A. 435 fpm
 - B. 600 fpm
 - C. 550 fpm
 - D. 425 fpm
9. Approaching BRISBANE, QLD (YBBN), you are radar vectored for a Rwy 19 ILS/DME or LLZ/DME (using BN DME) approach. The aircraft is not equipped with a flight director or coupled autopilot. The PEC chart indicates 0' and HIAL is available. The minima for this approach is :
- A. 220' / 0.8 km
 - B. 270' / 1.2 km
 - C. 220' / 1.2 km
 - D. 220' / 1.5 km
10. Refer to CANBERRA, ACT (YSCB)
You are cleared for a Canberra One departure from runway12.
After take off you have a complete failure of all 2-way radio equipment.
Your actions should be:
- A. Squawk 7600 maintain last vector for 1 minute, climb to MSA then proceed in accordance with last ATC clearance.
 - B. Maintain last vector for 2 minutes, climb to MSA then proceed in accordance with last ATC clearance
 - C. Squawk 7600 and return for a landing
 - D. Squawk 7600 maintain last vector for 2 minutes, climb to MSA then proceed in accordance with last ATC clearance acknowledged.

11. As a part of your Inbound Airways Clearance you receive the instruction "descend to 4000 feet at standard rate". To comply with this requirement you:
- A. Descend at 500 fpm to 4000'
 - B. Descend at not less than 500fpm to 4000'
 - C. Descend at not less than 500 fpm to 5000' and at 500 fpm from 5000' to 4000'
 - D. Descend at not less than 1000 fpm to 5000' and at 500 fpm from 5000' to 4000'
12. What icing risk (if any) exists for an aircraft that flies quickly from a region where The temperature is below freezing to a warm, moist layer of air?
- A. No icing risk
 - B. Light Rime Ice
 - C. Clear Ice
 - D. Hoar Frost
13. Which of the following clouds would present the least icing risk ?
- A. Stratus
 - B. Cumulus
 - C. Thick Alto Stratus
 - D. Nimbostratus
14. Refer to the following TAF for MUDGEE, NSW (YMDG)
- YMDG TAF AMD YMDG 070050Z 0214 28012KT 9999 -RA
SCT010 SCT030 BKN120
FM03 23015KT 9999 -SHRA SCT010 SCT030 BKN120
INTER 0214 6000 SHRA BKN010
PROB30 INTER 0308 5000 TSRA BKN008 SCTCB050
T 17 20 15 12 Q 1019 1019 1021 1023
- The above TAF is valid for ETA's between:
- A. 02:00Z & 14:00Z
 - B. 01:30Z & 15:00Z
 - C. 02:30Z & 13:00Z
 - D. 02:30EST & 13:00EST
15. You are tracking inbound on the VOR 360° radial. The OBS setting has been set to provide command indications. Which cockpit VOR indications would inform you that you have achieved station passage?
- A. Course Index Set to 360° - ▼ Flag
 - B. Course Index Set to 180° - ▼ Flag
 - C. Course Index Set to 180° - ▲ Flag
 - D. Course Index Set to 360° - ▲ Flag
16. You are flying from ARMIDALE, NSW to COFFS HARBOUR, ATD Armidale 1130 UTC. The maximum distance at which you can use the Coffs Harbour NDB is :
- A. 41 nm
 - B. 60 nm
 - C. 75 nm
 - D. 110 nm

17. An aircraft equipped with a fixed card ADF is passing abeam an NDB that is situated to the right of track. Your heading is 090 which is allowing for 10° Right drift.

What is the relative bearing that would indicate the abeam position?

- A. 080° REL
 - B. 090° REL
 - C. 100° REL
 - D. 260° REL
18. What is the maximum speed (IAS) for the final approach on a FORREST, WA NDB approach in a category B aircraft?
- A. 85 kt
 - B. 130 kt
 - C. 150 kt
 - D. 175 kt
19. You are conducting a CUNDERDIN, WA (YCUN) GPS Arrival. Approaching 20 DME you divert around a thunderstorm. In order to continue the GPS arrival to the MDA you must complete the diversion by:
- A. 10 nm
 - B. 5 nm
 - C. 7 nm
 - D. 4 nm
20. Refer ERC L8.
Your position is 100 nm NW of KALGOORLIE, WA (YPKG) en-route from Meekatharra to YPKG. The appropriate frequency to receive automatic weather forecast information is:
- A. 118.4 MHz
 - B. 6565 KHz
 - C. 128.25 MHz
 - D. 126.7 MHz
21. You plan an IFR CHTR flight carrying passengers from Perth to Albany in a C310.
ETA YABA – 1300Z
The aircraft is equipped with 2 VHF, 1 HF, 1 ADF, 1 VOR and 1 International DME.
All aircraft and ground-based nav aids are serviceable.
Arrangements have not been made for a responsible person to be in attendance for your arrival. The following TAF is current for the flight:
- YABA TAF YABA 010814Z 1022 23005KT 9999 SCT020 BKN030
T 15 11 10 10 Q 1018 1018 1017 1018
- Which of the following statements regarding the provision for an alternate or holding fuel is correct?
- A. You are required to plan for an alternate.
 - B. 30 Min holding fuel is required.
 - C. No alternate or holding fuel is required.
 - D. An alternate is required as the forecast indicates more than 4 oktas of cloud below last route segment LSALT + 500'.

Instrument Rating Examination – Exam 1

22. After completing navaid training and circuits at ROTTNEST, WA (RTI) in a C210 (single engine aircraft) you taxi to rwy 27 for a departure to Perth. The take off Minima for this departure is:
- A. 400' cloud ceiling / 4.4 km visibility
 - B. 300' cloud ceiling / 2.0 km visibility
 - C. 0' cloud ceiling / 800 m visibility
 - D. 700' cloud ceiling / 2.0 km visibility
23. You plan on testing the newly fitted Weather radar in normal mode. The minimum distance you need to be from another aircraft is:
- A. 60 m
 - B. 15 m if an approved attenuator is fitted.
 - C. 75 m
 - D. 37 m
24. You Plan an IFR CHTR flight carrying passengers to PARABURDOO, WA (YPBO). Your aircraft is fitted with 2 VHF radios, 1 HF radio, 2 ADF's and 2 VOR's. Which frequency would you use to cancel SAR?
- A. PH 6565 KHz
 - B. PH 126.7MHz
 - C. PH 125.7 MHz
 - D. PH 4684 KHz
25. The highest LSALT for a flight from CAIGUNA, WA (YCAG) to LEONORA, WA (YLEO) via Kalgoorlie is:
- A. 2900'
 - B. 2700'
 - C. 3100'
 - D. 3300'
26. You plan an IFR CHTR flight not carrying passengers from KALGOORLIE, WA (YPKG) to FORREST, WA (YFRT) in a C310. Your aircraft is equipped with 2 VHF radios, a HF and 2 ADF's
The mandatory position reporting points are:
- A. SEVSI – SEEMO – YFRT
 - B. SEVSI – SEEMO
 - C. SEVSI
 - D. SEEMO

27. You are planning an IFR CHTR flight carrying passengers from GERALDTON, WA (YGEL) to PERTH, WA (YPPH).
Your aircraft is equipped with 2 VHF Radios, 1 HF Radio, 2 VOR's, 1 ADF and an International DME.
The following TAF is current for your ETA of 0330Z.
- YPPH TAF AMD YPPH 022214Z 0024 26010KT 9999 FEW025
FM03 SCT040 04005KT 9999 -DZ BKN008 SCT025 SCT040
INTER 0610 5000 SHRA BKN008
T 14 19 20 19 Q 1019 1018 1017 1018
- Which of the following statements is correct:
- A. An Alternate is required as the TAF indicates wx below alternate minima
 - B. No Alternate is required as wx is above alternate minima
 - C. An Alternate is required due to visibility
 - D. No Alternate is required as long as a responsible person is in attendance
28. You are on an IFR CHTR flight carrying passengers. You ARRIVE overhead ALBANY, WA (YABA) at 0311Z with 110min fuel on board
Your alternate is 50 mins away.
You enter the holding pattern due to fog.
The latest divert time is:
- A. 0318Z
 - B. 0315Z
 - C. 0411Z
 - D. 0326Z
29. Which of the following is not included in a STAR clearance?
- A. The STAR identifier
 - B. A level assignment
 - C. A runway
 - D. The navaid to be used
30. You are the holder of a single engine Command Instrument Rating endorsed with NDB &VOR. What are the minimum nav aids required for an IFR AWK flight from PERTH, WA (YPPH) to KALGOORLIE, WA (YPKG)?
- A. 1 ADF
 - B. 1 VOR
 - C. 1 ADF & 1 VOR
 - D. 1 DME and 1 TSO IFR GPS
31. You plan to depart an aerodrome on an IFR flight without an ARFOR.
You may do this provided that:
- A. You have a TAF for your destination that is valid 30 mins before to 60 mins after your ETA.
 - B. You are satisfied that the weather will permit a safe return within 1 hour and you obtain a forecast within 30 min.
 - C. You are satisfied that the weather will permit a safe return within 30 min and you obtain a forecast within 60 min.
 - D. You cannot depart on an IFR flight without an Area forecast.

32. You are flying through Stratocumulus cloud with an OAT of -5° C. The type of airframe icing you may expect is:
- A. Occasional Rime Ice
 - B. Occasional Clear Ice
 - C. Hoar Frost
 - D. No Ice
33. Which level in a thunderstorm will present the most severe Icing risk?
- A. Approximately 12000'
 - B. Below the cloud
 - C. Under the anvil
 - D. Just above the freezing level
34. Approaching NEWCASTLE/WILLIAMTOWN by day from the east the NDB rated coverage is:
- A. 90nm
 - B. 110nm
 - C. 170nm
 - D. 150nm
35. You have just departed PERTH, WA (YPPH) for ROTTNEST, WA (YRTI) and are being radar vectored at an altitude that is below MSA. In the event of a radio failure your actions should be:
- A. Climb to MSA, maintain vector for 2 min, squawk 7600, then proceed as cleared
 - B. Climb to MSA, maintain vector for 2 min, squawk 7600, then return to Perth for a landing
 - C. Climb to MSA, maintain vector for 1 min, squawk 7600, then proceed as cleared
 - D. Climb to MSA, maintain vector for 1 min, squawk 7600, then return to Perth for a landing
36. Which DME indication should you receive when you are directly over a VOR/DME site at approximately 6,000 feet AGL?
- A. 0nm
 - B. 1nm
 - C. 1.3nm
 - D. The DME will display the off flag when overhead the station.
37. A particular SID requires a minimum climb rate of 210 feet per NM to 8,000 feet. If you climb with a groundspeed of 140 knots, what is the rate of climb required in feet per minute?
- A. 210 fpm
 - B. 450 fpm
 - C. 490 fpm
 - D. 600 fpm

Instrument Rating Examination – Exam 1

38. A VOR receiver with normal five-dot course sensitivity shows a three-dot deflection at 30 NM from the station. The aircraft would be displaced approximately how far from the course centreline?
- A. 2 nm
 - B. 3 nm
 - C. 5 nm
 - D. 6 nm
39. From overhead an NDB an aircraft maintains a constant heading of 094M. Your planned track is 091M, and the relative bearing to the NDB is 188 degrees. What drift (in degrees) has been experienced since passing overhead the NDB?
- A. 11° Left Drift
 - B. 8° Left Drift
 - C. 8° Right Drift
 - D. 3° Left Drift
40. To remain on the ILS glidepath, the rate of descent must be:
- A. decreased if the airspeed is increased.
 - B. decreased if the groundspeed is increased.
 - C. increased if the groundspeed is increased
 - D. not changed as descent rate is independent of groundspeed

End of Exam One – Answers at located on page 37

Instrument Rating Examination

Exam 2

1. Given: FZL 7000'
TAS 185 kt
BKN Cu 4000 – FL 220
Which of the following would result in the most severe icing ?
 - A. 13000' - 16000'
 - B. 7000' - 8000'
 - C. 35000'
 - D. 19000' - 22000'

2. A thunderstorm is active approximately 10 km from an aerodrome. A hazard for a pilot wishing to land at the aerodrome should be on the alert for is:
 - A. severe up draughts
 - B. severe low level wind shear
 - C. poor visibility due to heavy rain
 - D. lightning
 - E. hail

3. You are the holder of a Command Instrument Rating Endorsed for Single engine operations only. A new contract requires you to act as Co-pilot for regular IFR Charter flights in a twin engine B1900 (Multi-Crew A/C). What are the minimum additional qualifications required before you can legally conduct this flight?
 - A. You must gain the appropriate aircraft endorsement and pass an initial multi-engine command instrument Rating Flight test
 - B. You need only gain a dispensation for the operation from CASA.
 - C. You must gain the appropriate aircraft endorsement and pass a CIR renewal on a multi-engine aircraft.
 - D. You must gain the appropriate aircraft endorsement.
 - E. No additional qualifications are needed.

4. You are the PIC of an IFR charter flight at night. You wish to change to NVFR for the last route segment. You may do this provided that:
 - A. You have at least 10 hours total night flight that includes 5 PIC.
 - B. You hold a NVFR rating and, within the last 12 months, you have logged at least 10 hours under NVFR procedures and a minimum of 2 navigation exercises (of at least 300nm or 3 hours) as either PIC or ICUS.
 - C. You hold a NVFR rating and have logged at least 10 hours under NVFR procedures and a minimum of 2 navigation exercises of at least 300nm or 3 hours
 - D. There are no NVFR requirements as your CIR is not endorsed 'day only'.

5. An aircraft equipped with a fixed card ADF is situated to the north of an NDB and is required to intercept a track of 270 (M) from that NDB. If the aircraft takes up a HDG of 225 (M), what is the relative bearing (to the station) that would establish the aircraft on the required track?
- A. 135°
 - B. 270°
 - C. 180°
 - D. 225°
6. An aircraft tracks out from overhead an NDB on a constant HDG
- | | |
|---------------|---------------|
| Planned track | 030° (M) |
| HDG | 040° (M) |
| Back bearing | 185° Relative |
- The track error (in degrees) is -
- A. 15° right
 - B. 5° right
 - C. 20° right
 - D. 10° right
7. Indication of VOR scalloping is evidenced by -
- A. the deviation indicator in the Omni Bearing Indicator oscillating continuously
 - B. the OFF flag in the Omni Bearing Indicator showing on and off continuously
 - C. continuously alternating TO/FROM indications
 - D. the identification of the VOR station transmitting the Morse code S continuously
 - E. the identification of the VOR station fading in and out at regular intervals
8. You are in receipt of and ARFOR and TAF that are applicable to your IFR flight. The minimum periods that the forecast must remain valid are:
- A. The Area forecast must be valid for 30 mins before ETA to 30 mins after ETA and the TAF must be valid for the duration of the flight.
 - B. The Area forecast must be valid for the duration of the flight and the TAF must be valid for 30 mins before ETA to 30 mins after ETA.
 - C. The Area forecast and the TAF must be valid for the duration of the flight.
 - D. The Area forecast must be valid for the duration of the flight and the TAF must be valid for 30 mins before ETA to 60 mins after ETA.
 - E. The Area forecast and the TAF must be valid for 30 mins before ETA to 30 mins after ETA

9. A pilot with a Command instrument rating may act as pilot in command on a single pilot IFR CHTR flight in an aircraft if he has recorded which of the following instrument times in aircraft, appropriate for the respective type of operation, within the last 90 days ?
- A. Multi-Crew Operations - 10 hours PIC instrument flight time including several instrument approaches; single pilot operations - 3 hours PIC instrument flight time but no instrument approach
 - B. Multi-Crew Operations - 3 hours ICUS instrument flight time including several instrument approaches; single pilot operations - 4 hours dual instrument flight time including several instrument approaches
 - C. Multi-Crew Operations - 4 hours dual instrument flight time including several instrument approaches; single pilot operations - 2 hour dual instrument flight time including several instrument approaches
 - D. Multi-Crew Operations - 2 hours dual instrument flight time including several instrument approaches; single pilot operations - 3 hours ICUS instrument flight time with several instrument approaches.
10. An IFR CHTR flight at night is to change to NGT VFR category for the last route segment to the destination. The destination is served by an NDB only and the aircraft is fitted with one serviceable ADF. There are no operational requirements for weather or lighting. Which of the following statements is correct ?
- A. Alternate requirements pertaining to IFR CHTR apply
 - B. An alternate within 60 min flight time of the destination is required
 - C. Either an alternate or additional holding fuel is required
 - D. Neither an alternate nor additional holding fuel is required.
11. An IFR flight in a category B aeroplane is planned to MACKAY QLD(YBMK). Because of payload requirement the pilot has elected not to carry holding fuel nor plan for an alternate. The destination TAF includes the following:
- TAF YBMK 291830Z 2008 31010KT 6000 RA BKNST007
FM04 31010KT 9999 RA SCTSC050
- What is the earliest ETA for YBMK that he/she may plan?
- A. 0330 UTC
 - B. 0400 UTC
 - C. There is no time restriction for this flight's arrival at YBMK
 - D. 0430 UTC
 - E. 0800 UTC
12. The pilot of a light twin-engine aeroplane on an IFR CHTR flight with passengers wishes to fly the last route segment as NGT VFR Category. Which of the following (flown as pilot in command) will meet the minimum recent experience required for this segment?
- A. A NGT cross country of one hour duration or 100 nm within the preceding 6 months, and three take offs and landings by night within the preceding 90 Days
 - B. NGT recency requirements do not apply in this case. CHTR flights with passengers are not permitted under the NGT VFR.
 - C. A NGT cross country of one hour duration or 100 nm within the preceding 12 months, and three take offs and landings by night within the preceding 90 days.
 - D. A NGT VFR cross country of one hour duration or 100 nm within the preceding 12 months, and one take off and landing by NGT within the preceding 6 months.

Instrument Rating Examination – Exam 2

13. A Pilot with a Command Instrument rating may act as pilot in command on a IFR CHTR flight in an aeroplane if he has recorded, within the last 90 days, which of the following instrument times?
- A. 3 hr PIC instrument flight time on helicopters
 - B. 2 hr ICUS instrument on an approved flight simulator
 - C. 4 hr instrument instruction time on an approved synthetic trainer
 - D. 2 hr instrument time including 1 hour instrument time on an approved flight simulator
14. Refer to the CUNDERDIN, WA (YCUN) GPS Arrival procedure.
- You commence descent in accordance with the GPS descent steps. Passing 2300' you receive a RAIM warning.
- Which of the following statements is true?
- A. You may continue descent to 1700' as long as you monitor the NDB ident.
 - B. You may continue descent to the next GPS descent step.
 - C. You must initiate a missed approach as the primary navaid used for the instrument approach has failed
 - D. You can maintain the altitude you were at when the RAIM warning appeared.
15. Refer to MT ISA (YBMA), QLD RWY 16 VOR/DME.
- Which of the following inbound tracks would enable you to make a direct entry to the outbound leg of the instrument approach ?
- A. 032°
 - B. 212°
 - C. 192°
 - D. 168°
 - E. Both A and C
16. Which of the following is NOT a requirement whilst conducting a visual circling procedure in a CAT B A/C after the ROTTNES,WA NDB approach ?
- A. You must remain within 2.66nm from the ARP.
 - B. You must comply with the normal circuit entry requirements if the visibility is in excess of 5000m
 - C. You must keep the approach end of the runway in sight.
 - D. You may descend lower than the MDA but no lower than 300' above obstacles (by day) until established on final.

Instrument Rating Examination – Exam 2

17. Refer ERC LOW L4. You are planning an IFR Flight, by day, from CHARLEVILLE, QLD (YBCV) (S2625 E14616) to MITCHELL, QLD (YMIT), 91 nm to the East (LSALT 3100') . The aircraft is equipped with 2 x ADF and 1 VHF NAV (with Glideslope). The NDB and DME at ROMA, QLD (YROM) are serviceable. Area forecast for area 41 that is valid for flight indicates the following conditions:

WIND: 2000' - VRB10 5000' - 170/10 7000' - 190/15
CLOUDS: BKN CUSC 3500/9000 VISIBILITY: 8 KM

Which of the following statements is true?

- A. You require an alternate because there are more than 4 oktas of cloud below the alternate minima
B. You require an alternate because there is no published procedure for MITCHELL
C. You do not require an alternate because the cloud base is above the LSALT
D. You require an alternate because there is no TAF available for MITCHELL.
E. You do no require an alternate because the area forecast indicates VFR conditions below LSALT
18. To plan an IFR flight to an aerodrome with an instrument approach, the minimum forecast requirements are:
- A. Area Forecast
B. Area Forecast and TAF
C. Area Forecast, TAF and METAR
D. Area Forecast, TAF, TTF and METAR.
19. A flight is estimated to arrive at its destination at 0145 UTC. The destination TAF includes the following:
PROB 30 INTER 0204 2000 - TS
If the pilot does not wish to nominate an alternate, how much additional holding time, if any is required?
- A. None
B. 135 min
C. 30 min
D. 45 min
E. 60 min
20. You are inbound to PERTH and cleared for the JENNA THREE ARRIVAL, ASPIC transition. The tracking requirements are:
- A. ASPIC - 60nm - JENNA - Follow arrival instructions
B. ASPIC - JENNA - SPUDO - Follow arrival instructions
C. AMERY - JENNA - SPUDO - Follow arrival instructions
D. ASPIC - JENNA - SPUDO - intercept 9nm ARC for 21/24 ILS
21. An IFR CHTR Flight at night is to change to NGT VFR category for the last route segment to the destination. The aircraft is fitted with one ADF, one VOR and one DME. There are no operational requirements for weather or lighting. If no alternate is available, what is the minimum number and type of serviceable radio navigation aids required at the destination for this flight ?
- A. Either an NDB or VOR is required
B. No aid is required
C. One aid of any type (NDB, VOR or DME) is required
D. Two aids, one of which must provide azimuth information, are required.

22. A PVT flight is planned to arrive at ADELAIDE, SA (YPAD) at 0615 UTC. The destination TTF is as follows

TTF SPECI YPAD 0500Z 23010KT 5000 BKNCU030 25/22 Q1008
TEMPO 0530/0730 3000 TS BKNCB025

Both the NDB and the aircraft's sole ADF are serviceable. The nearest suitable alternate is 90 min away. The minimum alternate or holding fuel requirement applicable to this flight is :

- A. Nil
 - B. 60 min
 - C. 45 min
 - D. 75 min
 - E. 120 min
23. During the last 90 days you have recorded the following instrument approaches.

1 NDB approach conducted in IMC 60 days ago
1 NDB approach conducted in VMC 35 days ago
1 ILS approach conducted in VMC 55 days ago
1 GPS arrival conducted in IMC 80 days ago.

Which of the following instrument approach may you conduct in IMC?

- A. NDB approach and GPS arrival only
 - B. NDB approach and DME/GPS arrival.
 - C. NDB, VOR, ILS approach and DME/GPS arrivals
 - D. NDB, VOR approach and DME/GPS arrivals
24. Refer ERC LOW L7/8. While tracking direct from Albany, WA (YABA) to ESPERANCE, WA (YESP) you encounter significant icing conditions at HOODY. Your aircraft is not equipped with de-icing systems and a descent becomes necessary. What is the lowest altitude to which the aircraft may descend in IMC at this point? (You may assume that you are in contact with the relevant ATS unit)
- A. 5000'
 - B. 3200'
 - C. 4700'
 - D. 3300'
 - E. 4000'

25. You are the holder of a Multi-engine CIR endorsed with NDB, VOR, ILS, DME Arrival. To conduct a VOR/DME instrument approach in IMC you must have:
- A. completed a DME arrival and a VOR approach in IMC within the last 90 days
 - B. completed a VOR/DME approach in IMC or VMC in the last 90 days.
 - C. completed a DME arrival and a VOR approach in VMC or IMC within the last 90 days
 - D. completed a VOR approach in VMC or IMC in the last 90 days
 - E. completed a VOR approach in IMC in the last 90 days

Instrument Rating Examination – Exam 2

26. You are the holder of a Multi-engine CIR endorsed with NDB, VOR, ILS, DME or GPS Arrival Procedure. To conduct a GPS arrival in IMC based on an aerodrome with an NDB you need to:
- A. Satisfy the recency requirements associated with NDB and DME arrival.
 - B. Pass a test for the en-route use of GPS and satisfy the recency requirements associated with DME/GPS arrivals.
 - C. Pass a test for the en-route use of GPS and satisfy the recency requirements associated with NDB and DME/GPS arrivals.
 - D. Pass a test for GPS Non-Precision approach and satisfy the recency requirements associated with GPS/NPA and DME/GPS arrivals.
27. When planning a single pilot IFR Charter flight in conditions where IMC exists, which of the following would satisfy the MINIMUM recency requirements?
- A. 1 hour ICUS instrument flight time in an aircraft conducted as a single pilot operation including 1 instrument approach conducted as a single pilot
 - B. 1 hour DUAL or ICUS instrument flight time conducted as a single pilot operation including 1 instrument approach conducted as a single pilot
 - C. 3 hours instrument flight time conducted as a single pilot operation including 1 instrument approach conducted as a single pilot
 - D. 1 hour ICUS instrument flight time in a synthetic trainer conducted as a single pilot operation including 1 instrument approach conducted as a single pilot.
28. Which of the following does NOT apply to an ILS in Australia.
- A. 3° Glidepath
 - B. approx. 5% descent gradient.
 - C. use of outer, middle and inner markers.
 - D. a descent rate of approx. 300'/nm
29. Standard Instrument Departure (SID) procedures assume that pilots will -
- A. not compensate for known wind effects when being radar vectored but will compensate when flying routes which are expressed as tracks
 - B. compensate for known wind effects when being radar vectored and when flying routes which are expressed as tracks
 - C. not compensate for known wind effects when being radar vectored or when flying routes are expressed as tracks
 - D. compensate for known wind effects when being radar vectored but will not compensate when flying routes which are expressed as tracks.
30. You are taking-off from RWY 05, ADELAIDE (YPAD) and departing on the RWY 05 EAST NATYA (NYA) FIVE DEPARTURE. When conforming to this procedure the bank angle shall average, unless otherwise specified -
- A. 15°
 - B. 25°
 - C. 10°
 - D. 20°

Instrument Rating Examination – Exam 2

31. You are cleared for a WEE JASPER THREE Standard Instrument Departure via WJS from RWY 17 at CANBERRA. To conform with the SID, at 3200 ft you should turn -
- A. right to initially track 280°
 - B. left to initially track 280°
 - C. right to initially track 305°
 - D. right to initially track 290°
 - E. left to initially track 240°
32. You are planning a departure from King Island, TAS in a Category B multi engine aircraft. Your Instrument Rating is valid and you have the required recency for conducting NDB approaches and the DME or GPS Arrival Procedure. In the event of an engine failure you will not be able to maintain LSALT. If no QNH is available and the wind is calm, the take off minima is:
- A. 300'AGL / 2.0km
 - B. 730'AMSL / 3.4 km
 - C. 630'AMSL / 3.4 km
 - D. 640'AMSL / 2.9km
33. During an NDB approach in IMC and below the MSA the Ident of the aid suddenly ceases, but the bearing indication remains steady. In these circumstances the pilot -
- A. shall carry out a missed approach climb to the MAPT and execute the published missed approach
 - B. may continue to the minimum altitude or MDA if the indicator continues to remain steady and the aircraft is within the prescribed circling area
 - C. shall climb on the present heading to the MSA
 - D. may execute a climbing turn to intercept the reciprocal track of the last flown segment of the approach, and continue climb to the MSA
 - E. may continue to the minimum altitude or MDA if the ADF indicator continues to remain steady
34. Refer ERC . You are flying a Category B aircraft to COOLANGATTA, QLD (YBCG), the inbound track is 310°. You receive the ATIS as follows:
"COOLANGATTA terminal information BRAVO, runway 14, wind light and variable, QNH 1021, temperature 24, CAVOK"
APPROACH clears you for a DME arrival. What is your MDA for this approach?
- A. 1300'
 - B. 700'
 - C. 860'
 - D. 2200'
 - E. 800'
35. Using the BRISBANE, QLD (YBBN) RWY 01 ILS/DME approach with a ground speed of 100 kt, the rate of descent necessary to maintain the glidepath would be closest to -
- A. 300 fpm
 - B. 500 fpm
 - C. 400 fpm
 - D. 600 fpm
 - E. 200 fpm

Instrument Rating Examination – Exam 2

36. An aircraft carrying out an ILS approach has an on glidepath indication as it crosses the outer marker; however the aircraft altimeter (with QNH correctly set) reads 70 ft higher than the specific check altitude for this fix. If the published DA for this ILS approach is 270 ft and assuming the aircraft requires nil PEC then the minima that should be used for this approach is -
- A. 200'
 - B. 270'
 - C. The MDA specified for the LLZ approach
 - D. 340'
37. Your Category A aeroplane is NOT equipped with a flight director or coupled autopilot approved for CAT 1 minima. All the NAV equipment is functioning and ground facilities reported as serviceable. On commencing your approach to ADELAIDE (YPAD) on the rwy23 ILS or ILS/DME or LLZ procedure you observe that the OFF flag for the ILS glidepath indicator is showing. You elect to continue the approach. What is the landing minima for this approach (assume the PEC = 30') ?
- A. 770 ft, 2.4 km
 - B. 800 ft, 1.2 km
 - C. 770 ft, 1.5 km
 - D. 270 ft, 2.4 km
 - E. 300 ft, 1.2 km
38. After passing overhead NDB and commencing the published approach, which has a reversal procedure, what are the tracking tolerances, if any, on the outbound track of the approach within which the aircraft must be established prior to commencing descent ?
- A. plus or minus 10 degrees of published track
 - B. established on outbound track or on a heading to intercept the outbound track.
 - C. positive station passage indicated
 - D. positive back bearing indicated or on an intercept heading
 - E. plus or minus 30 degrees of published track.
39. While operating in the BRISBANE (YBBN) RWY 01 VOR/DME holding pattern at 4000 ft in a category B aeroplane, what is the maximum IAS that may be flown without ATC approval?
- A. 180 kt
 - B. 170 kt
 - C. 210 kt
 - D. 135 kt
 - E. 230 kt

40. Your aircraft is fitted with 1 DME, 2 ADF's & 1 VHF Comm. You are planning an IFR charter flight at night. Disregarding the locations of the aerodromes which of the following are suitable as an alternate if there is no responsible person present and there are no weather related operational requirements ?
1. Cairns 2. Camden 3. Cobar 4. Cowra 5. Ceduna
- A. 1,2,3,4,5
B. 1,2 & 5 only
C. 2 & 5 only
D. 1 only
E. none are suitable

End of Exam Two – Answers at located on page 40

Instrument Rating Examination

Exam 3

1. You are planning an IFR CHTR flight by day from EMERALD QLD to BARCALDINE QLD and are advised that LONGREACH is suitable as an alternate. Your aircraft is fitted with 2 x ADF, 1 x VOR and 1 x DME which are all serviceable. The aids at all aerodromes and enroute are operational. Your ETA at BARCALDINE is 0230UTC

The TAF for BARCALDINE includes

TAF YBAR 121845UTC 2008 23012KT 7000 RASH FEW020 FEW045 FM02
27015 9999 SCT045

If the flight times are calculated as follows what is the minimum fuel required at take-off

EMERALD - BARCALDINE	65 min
BARCALDINE - LONGREACH	25 min

- A. 120 min
B. 135 min
C. 149 min
D. 110 min
2. You are flying the enroute track between DEVONPORT and FLINDERS ISLAND at 10000' in cloud in an aircraft fitted with 1 x ADF and 1 x DME Your ADF is tuned to FLI and indicates you are on track and your DME tuned to DPO indicates 87nm Both aids are identified What is the lowest altitude to which you may descent in cloud in the next 5 nm
- A. LSALT
B. MSA
C. MDA
D. DME STEP
3. You are enroute on an IFR CHTR flight from KALGOORLIE, WA to PERTH, WA via CUNDERDIN at A060. What is the latest point you would expect ATS to tell you to contact ATC for an airways clearance?
- A. 40 DME
B. 35 DME
C. 50 DME
D. 30 DME
4. When conducting a CAIRNS ONE Departure at CAIRNS QLD from runway 33 in a category B piston engine aircraft with a climb speed of 130 kt What assigned heading will you be expecting after take-off ?
- A. 330°-070°
B. 360°-070°
C. 350°-030°
D. 270°

5. What is the initial track to be flown from BRISBANE when departing on a TRIKI 2 Departure from runway 01
- A. 015°
 - B. 016°
 - C. 345°
 - D. 196°
6. You are planning a flight from Sydney to Coffs Harbour via the Alternate route for non-jet aircraft. What are the compulsory reporting points for the flight in an aircraft with a TAS of 160 kt.
- A. Sydney, West Maitland, Coffs Harbour
 - B. Kamba, West Maitland, Cravn
 - C. Kamba, Cravn
 - D. West Maitland
7. TAC-4 refers.
You are tracking from PINGELLY (S3232 E11705) to PERTH, WA (YPPH), and have been cleared to conduct a DME Arrival. To what altitude may you descend in IMC at 24 DME?
- A. 3000'
 - B. 5000'
 - C. 4000'
 - D. 2600'
8. Refer to MACKAY, QLD
You are conducting a RWY 14 VOR/DME approach in a Category B Aircraft. The maximum speed permitted after the FAF is:
- A. 85 kt
 - B. 130 kt
 - C. 140 kt
 - D. 135 kt
9. ERC L5 Refers.
You are planning a private IFR flight by day from Thargomindah QLD to Moomba SA. The flight is planned on a public holiday and no TAF is available for Moomba Your aircraft is fitted with 1 ADF and 1 VOR both are serviceable and all ground aids enroute and at the destination are serviceable. The ARFOR covering the flight is valid and includes BKN NS 2500/15000. Which of the following is correct regarding the provision of an alternate aerodrome
- A. an alternate is required because there is no TAF for Moomba
 - B. an alternate is required because the aerodrome is unattended
 - C. an alternate is required because there is more than 4/8 of cloud below the alternate minima
 - D. an alternate is not required because the forecast is VFR below the LSALT.

10. When cleared for a Visual Approach at night in an IFR aircraft to an aerodrome within a Control Zone when is the aircraft permitted to descend below the minimum route altitude?
- A. within 30 nm
 - B. within 5 nm if established on LLZ
 - C. within 3 nm if established on Final
 - D. within 10 nm if established on ILS
11. Your aircraft is fitted with 1 DME, 2 ADF,s and 1 VHF comm . You are planning an IFR CHTR flight at night Disregarding the location of the aerodromes, which of the following is suitable as an alternate if no responsible person is available, and there are no weather related operational requirements
- 1 CASINO, 2 CLERMONT, 3 CANBERRA 4 COBAR 5 CAMDEN
- A. 1,3,4,5
 - B. 3
 - C. 1,2,3,4,5
 - D. 1,5
 - E. 1,4,5
12. Refer ERC L 1/2
You are flying to STRAHAN TAS at 10000' in cloud in an aircraft fitted with 2 x VORs, 2 x ADF,s and 1 x DME. Strahan NDB is unserviceable by NOTAM at your proposed time of arrival. Which of the following combination of radio aids will allow you to positively fix your position over STRAHAN
- A. SMI NDB and DPO NDB
 - B. DPO VOR and WYN VOR
 - C. LT VOR and DME
 - D. DPO VOR and HB VOR
 - E. DPO VOR and DME
13. Your proposed flight from HOBART to WYNYARD TAS is in a category B aircraft with a maximum crosswind component of 20 knots , fitted with 1 ADF, 1 VOR 1 DME, 1 VHF comm and 1 HF radio. The aircraft is not equipped with anti-icing or Oxygen. The ARFOR, which is valid for the flight, includes cloud for the route to be flown as BKN NS base 5000, FZL 7300. The TAF for WYN includes 33015kt 9000 SCT035.
You should;
- A. Plan at 4000'
 - B. Plan at 6000'
 - C. Plan at 8000'
 - D. Abandon the flight or plan an alternative route
14. When flying inbound on a DME arrival procedure at ARMIDALE you need to manoeuvre around a thunderstorm. What is the latest distance at which you must complete the manoeuvre?
- A. 15 DME
 - B. 5 DME
 - C. 4 DME
 - D. MAPT

15. You are cleared for a WAREN FOUR ARRIVAL, Wonthaggi transition to Melbourne, VIC and then via the visual procedure for runway 34. What are the tracking requirements?
- A. WON – WAREN – MICHM – NEILS – ML
 - B. WON – WAREN – MICHM – PLE –257° to intercept final approach for runway 34 ML
 - C. WON – WAREN – MICHM – PLE – EN 26 LLZ – abeam EN NDB - 257° to intercept final approach for runway 34 ML
 - D. WON – WAREN – MICHM – PLE – EPP – ML
16. What ADF and VOR indications will you receive while conducting a PINJA TWO STAR at PERTH in nil wind conditions when at PINJA and heading 290° if your ADF is tuned to CUN and your VOR is tuned to PERTH
- A. 290° TO VOR ; 244° Rel NDB
 - B. 284° TO VOR ; 244° Rel NDB
 - C. 104° TO VOR ; 134° Rel NDB
 - D. 284° TO VOR ; 134° Rel NDB
17. Your destination TAF is as follows
- YPKG TAF YPKG 070614Z 0114 24005KT 0500 FG BKN002 SCT050 BKN120
FM05 19010KT 9999 FEW010 BKN020
INTER 0709 5000 SHRA BKN007
T 15 14 11 09 Q 1017 1019 1020 1021
- What is the earliest ETA not requiring the carriage of ALTERNATE fuel?
- A. 0430UTC
 - B. 0500UTC
 - C. 0530UTC
 - D. 0930UTC
18. The greatest hazard for an aircraft on approach for landing at an aerodrome where a microburst is in the vicinity is
- A. decreased visibility
 - B. windshear and updrafts
 - C. windshear and downdrafts
 - D. turbulence
19. You are conducting a flight to CAIRNS QLD and at 2355 UTC you tuned to the VOLMET frequency to obtain the current aerodrome forecast. The forecast for CAIRNS will be available by using:
- A. HF
 - B. VHF
 - C. UHF
 - D. VLF

20. The track around a thunderstorm giving the least chance of encountering hail is
- A. upwind of the thunderstorm
 - B. anywhere except under the anvil
 - C. downwind more than 5 nm from the cell
 - D. anywhere except beneath the cell
21. You are flying beneath a layer of Towering Cumulus cloud in rain with an outside air temperature of +3 C and are encountering moderate turbulence. The most probable type of icing you could expect is;
- A. clear ice
 - B. rime ice
 - C. rime and clear ice
 - D. nil ice is possible as you are not in cloud.
22. You are inbound to DUBBO, NSW in a category B aircraft to conduct a RWY 23 VOR/DME. All airborne and ground based equipment is reported as serviceable. AWIB indicates a wind of 220/20KT The MDA for this approach is:
- A. 1450' / 2.8 km visibility
 - B. 1350' / 2.8 km visibility
 - C. 515' / 2.8 km visibility
 - D. 1650' / 2.4 km visibility
23. You depart LAUNCESTON (YMLT) at 0310 UTC tracking outbound on the 289 omni radial At 0340, the CDI is half scale deflection to the right of centre. The DME, which is co-located with the VOR, reads 96 NM. Your distance off track is closest to,
- A. 5 NM left of track.
 - B. 8 NM left of track.
 - C. 8 NM right of track.
 - D. 4 NM right of track.
24. A pilot with a current command instrument rating may act as pilot in command of a single pilot IFR flight in an aeroplane if he/she has recorded which of the following instrument times within the last 90 days,
- A. Three hours instrument time in flight whilst acting ICUS including 2 ILS approaches in IMC in a two pilot operation.
 - B. Three hours instrument flight time in single pilot operations but no instrument approaches.
 - C. 2 hours in command in helicopters including 4 x practice NDB approaches.
 - D. One hour in flight acting in command under supervision of single pilot IFR operations with one NDB approach.
25. In calculating the LSALT for a particular route, when track guidance is provided by NDB, the tolerance area is determined by lines diverging from the flight plan track at an angle of,
- A. 10.3°
 - B. half scale deflection.
 - C. 12°.
 - D. 15°.

- 26 Your Pilot Licence is endorsed with a Co-pilot instrument Rating.
The IFR flight test was performed in a single engine aircraft.
Which of the following statements is correct
- A. You may fly an aircraft in IFR operations as PIC, as long as it is not a passenger carrying operation.
 - B. You may act as a Co pilot in PVT, AWK or Freight only CHTR only.
 - C. You may act as Co-pilot in any operation in either a single or multi engine aircraft.
 - D. You may act as a Co-pilot in any operation in a single engine aircraft only.
- 27 Which of the following statements regarding the use of DME is correct.
- A. You can only use the DME in an instrument approach if your licence is endorsed with DME.
 - B. You may only use the DME in a DME Descent if your licence is not endorsed with DME.
 - C. You may use the DME during an NDB/DME or VOR/DME approach but not during a DME arrival if your licence is not endorsed with DME
 - D. You may use the DME in conjunction with an Azimuthal aid, for DME arrivals or DME ARCs if your licence is not endorsed with DME.
28. You conduct a visual approach into ESPERANCE WA; there are no other aircraft in the vicinity. The frequency you would you cancel your SARWATCH on is:
- A. 119.8 MHz
 - B. 125.4 MHz
 - C. 126.7 MHz
 - D. 3461 kHz
- 29 Your aircraft is fitted with a VOR, 2 ADF's and a DME. In the previous 90 days you have conducted 2 NDB approaches and 1 LLZ/DME approach.
You intend conducting a Rwy 24 VOR/DME approach at DEVENPORT, TAS
AWIB indicates a wind of 250°(m)/10kt.
The MDA for this approach is :
- A. 730' / 2.4 km
 - B. 830' / 2.4 km
 - C. 830' / 4.0 km
 - D. You cannot conduct this approach, as you do not satisfy the recency requirements.
- 30 Refer ERC L8. You depart Carnarvon for Kununurra with Broome as your alternate. At 00:10 UTC you fix your position 100 nm SW of Broome. When within range the appropriate frequency to receive automatic weather information for both Broome and Kununurra is :
- A. 128.45 MHz
 - B. 122.1 MHz
 - C. 123.9 MHz
 - D. 4684 KHz

- 31 You plan to depart Mc Arthur River Mine, NT by night on a PVT IFR flight in a single engine aircraft. The aircraft has a serviceable ADF & VOR & no accurate QNH is available.
The minima for this take off are:
- A. 400 ft ceiling and 2000 m visibility.
 - B. 840 ft ceiling and 4600 m visibility.
 - C. 300 ft ceiling and 2000 m visibility.
 - D. 940 ft ceiling and 4600 m visibility.
- 32 Which of the following is not associated with a microburst?
- A. Heavy Rain and Thunderstorms
 - B. Virga
 - C. ELR less than SALR
 - D. Ring of dust on a dry surface
- 33 You depart Port Hedland, WA, on an AWK flight for Geraldton Via Carnarvon with a serviceable altimeter. At the en-route stop the altimeter reads 68' with an accurate QNH set.
Which of the following is correct?
- A. You may depart as long as the altimeter is serviced at Geraldton.
 - B. You may depart if the altimeter is placarded UNSERVICEABLE.
 - C. The altimeter is unserviceable and you may not depart
 - D. You may depart as the altimeter is serviceable
34. Refer Brisbane TAC
You are tracking from Brisbane to Casino via Laravale
What is the highest LSALT?
- A. 5700'
 - B. 2700'
 - C. 5200'
 - D. 3100'
35. Noise abatement procedures shall normally apply to all jet propelled aircraft and all other aircraft having a MTOW exceeding 5700 kg, however noise abatement will not be a determining factor for runway selection if :
- A. the departure is during daylight hours.
 - B. wind shear is report
 - C. for a dry runway, there is any reported downwind, including gusts.
 - D. or a wet runway, there is a crosswind that exceeds 15 kt.
- 36 What minimum rate of climb (ft/min) must an aircraft achieve, with a GS of 90 kt, to ensure that it has the minimum designed obstacle clearance during a published missed approach?
- A. 90 fpm
 - B. 295 fpm
 - C. 225 fpm
 - D. 500 fpm
 - E. 450 fpm

Instrument Rating Examination – Exam 3

37. You are conducting the NDB approach at KOWANYAMA, QLD (YKOW), by night.

At completion of the reversal procedure you sighted the airfield. When is the earliest point at which you may discontinue the procedure and track to join the circuit for a landing on RWY 30?

- A. At any time as long as you maintain 300' obstacle clearance.
 - B. At any time as long as you maintain 400' obstacle clearance.
 - C. Once within 3nm of the ARP
 - D. Once within 3 nm of the RWY 30 threshold
 - E. Once within 2.66 nm of the RWY 30 threshold.
- 38 Refer to ADELAIDE RWY 23 ILS or ILS/DME or LLZ/DME
- You are being radar vectored to MBY LOC for a RWY 23 ILS and are cleared to A030. At what point may you commence your final descent below A030 ?
- A. At 11 DME.
 - B. At any time after the MBY Locator.
 - C. When you are "cleared for RWY 23 ILS", and you intercept the Glide slope.
 - D. As soon as you are " cleared for RWY 23 ILS ".
- 39 You intend conducting a Newman (YNWN) Rwy 05 VOR approach. The TAF indicates a QNH of 1015 hpa and wind of 070/15 kt. What is the landing minima for this approach ?
- A. 2410 ft
 - B. 2310 ft
 - C. 586 ft
 - D. 2450 ft
- 40 Refer Sydney TAC
- You are flying a Baron to DUBBO, NSW. There are no other aircraft in the vicinity After landing the appropriate frequency to cancel SARWATCH is :
- A. Melbourne 123.9
 - B. Sydney 135.25
 - C. Sydney 6610
 - D. Dubbo 134.0

End of Exam Three – Answers at located on page 40

Instrument Rating Examination

Exam 4

1. You are conducting a PERTH, WA Rwy 24 VOR/DME approach in a category B aircraft. After tracking 068° to 8 DME you turn left to intercept the inbound track of 236°.

The maximum IAS permitted after passing 8 DME inbound is:

- A. 130 kt
- B. 210 kt
- C. 140 kt
- D. 180 kt
- E. 175 kt

2. Refer to Canberra, ACT Rwy 35 ILS or LLZ/DME. Your aircraft is equipped with an ADF, 1 VOR with glideslope and markers. After passing CCK locator the glideslope fails. If permissible you intend on continuing an approach.

The lowest altitude you may descend to in cloud is :

- A. 2400'
- B. 3300'
- C. 2300'
- D. You must carry out a missed approach as soon as possible
- E. 2200'

3. Refer to MELBOURNE/ESSENDON, Vic. You are cleared for a ESSENDON ONE departure from Rwy 35. Your departure time is 0400 EST.

After take off your actions should be:

- A. Maintain HDG 347° and turn to assigned HDG at 1000'
- B. Maintain TR 347° and turn to assigned HDG at 1500'
- C. Maintain HDG 347° and turn to assigned HDG at 1500'
- D. Maintain TR 347° and turn to assigned HDG at 1000'

4. Refer to CAIRNS, QLD Rwy 15 ILS or ILS/DME. You intercept the 15 DME ARC at the 060° Radial. The lowest altitude you may descend to at this point is :

- A. 5200'
- B. 4000'
- C. 6500'
- D. 3700'

5. You are conducting a MOREE, NSW NDB approach in a Beechcraft Baron (category B aircraft). The MDA of 1350' provides a minimum obstacle clearance of :

- A. 400' within 3nm of the ARP
- B. 300' within 3nm of the ARP
- C. 400' within 2.66nm of the threshold of Rwy 01
- D. 300' within 1.68nm of the threshold of Rwy 19

6. Refer to the PARABURDOO, WA (YPBO) 24 VOR/DME approach. You intercept the 10 DME arc on the 300° Radial PBO at 5100'. The earliest time you may descend below 5100' is:
- A. 10 DME
 - B. established on the 10 nm ARC
 - C. established on the 10 nm ARC and past the 339° Radial PBO
 - D. established on the 10 nm ARC and past the Initial approach fix (042° Radial PBO)
7. Hoar frost is a light crystalline deposit of ice that occurs in clear air and forms as a result of:
- A. Deposition
 - B. Sublimation
 - C. Freezing
 - D. Condensation
8. You have been tracking 270° from an NDB for 20 mins with a TAS of 180kt. At this time you establish the NDB has failed. The LSALT for this situation is :
- A. 1000' above the highest terrain within a 50nm Radius
 - B. As per the flight plan
 - C. 1000' above the highest terrain within a 17nm radius of your estimated position.
 - D. 1000' above the highest terrain within a 12nm radius of your estimated position
9. Which of the following is correct regarding the severity of hail produced by a thunderstorm?
- A. Mid latitude thunderstorms generally produce less hail than Sub tropical thunderstorms
 - B. Mid latitude thunderstorms generally produce more hail than Sub tropical thunderstorms
 - C. Mid latitude and Sub tropical thunderstorms produce equal hail
 - D. There is no connecting between hail amount and latitude.
10. You depart WYNYARD for an IFR Charter flight to HOBART direct. You should make your departure report by:
- A. 5000' AGL
 - B. 5000' AMSL
 - C. 15 DME
 - D. 7500' AMSL
 - E. As soon as possible after take off
11. You plan to arrive at YPPH at 0415 UTC. You have the following messages in hand :
- TAF YPPH 120625Z 0808 ...
TTF METAR 0100 ...
AMD AREA FORECAST 112300 to 121100 AREA 60 ...
- To plan your arrival, you should use the conditions described in the
- A. TAF
 - B. TTF
 - C. METAR
 - D. AREA FORECAST

12. The significance of the final approach fix (FAF) shown on the WEST SALE (WSL) NDB approach (using ES NDB) is that:
- A. The aircraft must achieve 2500' by the ES NDB when joining the procedure. Descent must commence after passing the FAF
 - B. Descent should not commence below 2500' after crossing the FAF unless the aircraft is established on the 265° Track.
 - C. The missed approach procedure should be commenced at this point if the required visual reference has not been established.
 - D. The straight in approach should not be commenced if the aircraft is at an altitude in excess of 2500'
13. After completing a DERBY, WA NDB approach you become visual at 1000' with an in flight visibility of 3.0 km. To maneuver for landing this aircraft -
- A. must join the circuit at the upwind, crosswind or downwind position
 - B. must join the circuit at the nearest of the crosswind, downwind or base position
 - C. must avoid the circuit area and position for straight in approach
 - D. may track direct to the base or final position.
14. You are planning an IFR Charter flight from ESPERANCE, WA to KALGOORLIE. Your Aircraft is fitted with 2 ADF, 1 VOR and 1 DME. All aircraft and ground aids are serviceable.
Flight time YESP – YPKG is 60 min
A suitable Alternate (if required) is SOUTHERN CROSS – (37 min flight time).
ETD YESP is 0100Z

You have received the following TAF's.

TAF YESP 072200 2311 29010KT 9999 LIGHT SHOWERS OF RAIN FEW012 BKN018
FM0225016KT 9999 SCT020 SCT030 INTER 0002 5000 SHOWERS OF RAIN BKN010
1012 1012 1012 1011 03 06 11 13

TAF AMD YPKG 072300Z 0018 10010KT 9999 SCT010
INTER 0002 PROB 30 FG 0500
FM 0300 SCT010 SCT040
1013 1012 1012 1011 05 07 10 12

TAF YSCR 072000Z 2311 05015KT 9999 SCT040 SCT040
INTER 0102 PROB 10 FG 0500
FM 0200 SCT009 SCT020 9999
1013 1012 1011 1011 05 07 09 11

The minimum fuel required to satisfy any and all operational requirements is:

- A. 145 min
- B. 135 min
- C. 105 min
- D. 156 min

Instrument Rating Examination – Exam 4

15. You are planning a flight between SOUTHERN CROSS (YSCR), WA to a position 180° / 100nm, assuming all ground based nav aids are serviceable what is the maximum distance either side of track that must be taken into consideration when calculating LSALT?
- A. 23 nm
 - B. 17 nm
 - C. 50 nm
 - D. 32 nm
16. During a VOR approach in IMC and below the MSA the Nav Flag appears, but the CDI indication remains centred. In this situation the pilot -
- A. may continue to the minimum altitude or MDA if the CDI continues to remain steady
 - B. may continue to the minimum altitude or MDA if the indicator continues to remain steady and the aircraft is within the prescribed circling area
 - C. shall climb on the present heading to the MSA
 - D. may execute a climbing turn to intercept the reciprocal track of the last flown segment of the approach, and continue climb to the MSA
 - E. shall carry out a missed approach climb to the MAPT and execute the published missed approach
17. Refer ALBANY, WA Rwy 14 NDB/DME. You are conducting this approach in a Category A aircraft. The maximum airspeed after 4 DME inbound is:
- A. 175 kt
 - B. 130 kt
 - C. 250 kt
 - D. 100 kt
 - E. 110 kt
18. You intend conducting a CUNDERDIN Rwy 23 GPS approach in IMC using a Trimble 2000 approach GPS. You completed your endorsement training on a GARMIN 155 GPS set five months prior to the date of the intended flight. In the previous 90 days you have completed 2 practice GPS approaches. Which of the following statements is correct?
- A. You should not conduct the GPS/NPA approach because you are not current.
 - B. You should not conduct the GPS/NPA approach because you are not current on the Trimble 2000A equipment.
 - C. You can conduct a GPS/NPA approach because you are current.
 - D. You can conduct a GPS/NPA approach because training on one type of approved GPS receiver qualifies you automatically on any other approved GPS receiver
19. You are flying from Kalgoorlie to Esperance. Overhead Norseman at A070 you give a position report. The appropriate frequency to contact flightwatch is:
- A. 122.1
 - B. 119.8
 - C. 6565
 - D. 134.2

20. You are planning a Night IFR charter flight to an aerodrome with a serviceable NDB but without an instrument approach. The aerodrome has PAL and portable lighting and a responsible person in attendance to display the portable lights. The aircraft is fitted with 2 NDB's, 1 VOR, 1 VHF and 1 HF radio. Which of the following statements is correct ?
- A. An alternate is not required if you carry 30 minutes of holding fuel
 - B. A alternate is required as there is no standby power
 - C. An alternate is not required if conditions are forecast above the alternate minima
 - D. An alternate is required, as there is no approved instrument approach.
21. You are cruising at A070 below SCT TCU with a base of 8000'. You observe virga falling from several of these clouds. Which of the following risks would you need to consider when flying beneath these clouds?
- A. Airframe Icing
 - B. Light Turbulence
 - C. Microburst
 - D. This situation does not present any risk.
22. Which of the following information is NOT available from the VOLMET service?
- A. All cloud types
 - B. Cloud types except Cb
 - C. Wind direction / velocity
 - D. Cloud ceiling
23. Refer Cairns, QLD (YBCS) Rwy 15 ILS or ILS/DME or LLZ/DME. You are instructed to join the 15 DME ARC at UPOLO. When established on the ARC, the lowest altitude you may descend to in IMC is.
- A. 6500'
 - B. 5200'
 - C. 4000'
 - D. 3700'
24. You are HDG 007° allowing for 12° Left drift. You are passing to the West of an NDB. Which of the following would indicate the Abeam position?
- A. 078°
 - B. 102°
 - C. 282°
 - D. 258°
25. You are planning an IFR Charter flight from an Island with an Elevation of 50' over water to an Island with an Elevation of 30'. Both Islands have serviceable NDB's. There are no other obstacles within 55nm either side of track. The LSALT for this flight is:
- A. 1410'
 - B. 1050'
 - C. 1500'
 - D. 1000'
 - E. The LSALT cannot be determined without reference to a WAC Chart.

26. You are the holder a Commercial Pilot Licence and Multi-Engine Command Instrument Rating not endorsed 'day only'. You have never held a NVFR rating. In the last 90 Days you have completed a 3 hour cross country Night IFR flight which included 3 night T/O's and 3 night landings.

Which of the following statements is correct?

- A. You may plan NVFR on the last route segment as your CIR is endorsed with night privileges
 - B. You may plan NVFR on the last route segment if you have logged 10hrs PIC or AICUS at night under the IFR
 - C. You may NOT plan NVFR on the last route segment as you do not satisfy the recency requirements
 - D. You may NOT plan NVFR on the last route segment as you do not satisfy the minimum experience requirements
27. Refer to ERC L7/8
You have been cleared from Perth, WA (YPPH) to Rottneest, WA (YRTI) via PERTH ONE SID. At 15 DME PH established on the PH-RTI direct track the lowest altitude you may descend to in IMC is:
- A. 3000'
 - B. 2600'
 - C. 2300'
 - D. 1500'
28. You are tracking 270° To an NDB allowing for 7° Right drift. After station passage which of the following Relative Bearings would indicate you are on track?
- A. 187°
 - B. 173°
 - C. 353°
 - D. 007°
29. Refer to Cairns, QLD (YBCS) Rwy 33 LLZ/DME using ICN DME.
You are Radar vectored at 4500' to intercept final at HENDO. With a G/S of 120kt the ROD required to maintain the design gradient, once established on the glidepath, before the FAF is:
- A. 608 fpm
 - B. 816 fpm
 - C. 500 fpm
 - D. 360 fpm
 - E. 408 fpm

30. You conduct the RWY 29 VOR/DME approach procedure at DERBY/CURTIN, WA (YDIN), by day. Breaking cloud at 1050 feet you sighted the airfield, but are positioned too high to land straight in. You assess that descending below the MDA will position your aircraft for a landing on the other runway. What is the minimum visibility along your intended flight path that you must maintain?
- A. 3.5km
 - B. 5.0km
 - C. 2.4km
 - D. 4.4km
 - E. 3.0km
31. Refer ERC L 2 / Jeppesen AU (Lo) 7
You are tracking from SWAN HILL, VIC (S35 22.8 E143 32.4) to WAGGA WAGGA, NSW (S35 09.9 E147 28.1).
The VOR OBS setting required to track via H135 to Wagga Wagga is:
- A. 077°
 - B. 253°
 - C. 073°
 - D. 063°
32. You are tracking from CUNDERDIN, PERTH (YDUN) at A060. You are Radar identified and told to contact Perth Approach at 45 nm for Airways clearance. When making this radio call you must :
- A. Report DME distance if available, together with either the radial if VOR equipped, or compass quadrant from the aerodrome, assigned level, flight conditions and advise receipt of ATIS.
 - B. Report DME distance if available, together with either the radial if VOR equipped, or compass quadrant from the aerodrome, assigned level, flight conditions, advise receipt of ATIS and request airways clearance.
 - C. Report assigned level, flight conditions, if appropriate, receipt of ATIS and request airways clearance.
 - D. Report assigned level, flight conditions, if appropriate and receipt of ATIS. Report DME distance if available, together with either the radial if VOR equipped, or compass quadrant from the aerodrome and assigned level
33. You are inbound to Jandakot, WA in an IFR Baron 58. You have received the following ATIS :
- "Jandakot terminal information DELTA, runway 24R for arrivals and departures frequency 118.1, Runway 24L for circuits and departures via Armadale wind 250/15 QNH 1019 temperature 29 CAVOK on first contact with Jandakot ground or tower notify receipt of DELTA"
- Under these conditions what level of separation will the tower provide?
- A. IFR - IFR
 - B. IFR - VFR
 - C. VFR - VFR
 - D. None

34. You are planning an IFR CHTR flight from TENNANT CREEK, NT to Warrabri, NT (81 nm South). In order to calculate the LSALT, the tolerance area when abeam Warrabri is closest to :
- A. 19 nm
 - B. 13 nm
 - C. 14 nm
 - D. 50 nm
 - E. 55 nm
35. You are flying IFR in an category B aircraft to GERALDTON WA (YGEL) where there is no operational requirement for Nav aids or lighting. The aircraft maximum permissible cross-wind component is 20 kts. The TAF for YGEL is :
TAF YGEL 192045Z 2210 34015KT 8000 SCT020 SCT035
FM02 23025G35KT 3000 TS SCT015 3CB035
T 25 24 23 23 Q 1016 1015 1013 1013
What is the earliest ETA for YGEL that requires the carriage of alternate fuel ?
- A. 0130 UTC
 - B. 2230 UTC
 - C. 0200 UTC
 - D. 0230 UTC
 - E. 2045 UTC
36. You have received a SID clearance for your departure (to Sydney) from Canberra, but no discrete SSR transponder code has been assigned. Prior to taking off in your twin-engine aeroplane you should select your transponder to -
- A. Code 7615
 - B. Code 3000
 - C. Code 2000
 - D. Code 1200
37. You are making a visual approach to PARABURDOO, WA (YPBO) at A040. The minimum distance from the aerodrome by which arrival information should have been broadcast when approaching YPBO and the frequency (MHZ) on which this broadcast should be made are -
- A. 15 nm & 125.7
 - B. 5 nm & 126.7
 - C. 5 nm & 125.7
 - D. 15 nm & 126.7
38. After cruising at or below the transition altitude, the change from Area QNH to the local QNH of the destination shall be made, unless otherwise directed by ATC, at -
- A. descent through LSALT or MSA, whichever is lower
 - B. commencement of descent
 - C. the initial approach fix or the commencement of a visual approach
 - D. descent through LSALT or MSA, whichever is higher
 - E. 30 nm from the destination

Instrument Rating Examination – Exam 4

39. After completing a Cunderdin NDB approach you become visual in conditions less than VMC. To manoeuvre for landing this aircraft -
- A. must join the circuit at the upwind, crosswind or downwind position
 - B. must join the circuit at the nearest of the crosswind, downwind or base position
 - C. must avoid the circuit area and position for straight in approach
 - D. may track direct to the base or final position.
40. You are at 4000 ft on the 14 DME ARC for a BRISBANE QLD (YBBN) RUNWAY 01 ILS/DME approach. Where is the earliest position that you may descend to 2500 ft ?
- A. After radial 174 BN
 - B. When Established on the LLZ
 - C. After radial 187 BN
 - D. At 10 DME on the LLZ
 - E. After Radial 150 BN

End of Exam Four – Answers at located on page 40

Instrument Rating Examination - Answers

Answers

Exam 1

1	C	11	C	21	A	31	B
2	C	12	D	22	B	32	A
3	D	13	A	23	D	33	D
4	B	14	C	24	C	34	D
5	D	15	B	25	C	35	A
6	A	16	B	26	B	36	B
7	A	17	C	27	A	37	C
8	B	18	B	28	A	38	B
9	C	19	B	29	D	39	C
10	D	20	C	30	C	40	C

Exam 2

1	B	11	D	21	A	31	D
2	B	12	A	22	B	32	D
3	D	13	B	23	D	33	A
4	C	14	B	24	B	34	B
5	D	15	A	25	D	35	B
6	A	16	A	26	B	36	D
7	A	17	A	27	A	37	A
8	D	18	B	28	C	38	B
9	D	19	C	29	A	39	B
10	D	20	B	30	A	40	D

Exam 3

1	A	11	B	21	A	31	C
2	A	12	C	22	B	32	C
3	A	13	D	23	B	33	D
4	A	14	B	24	D	34	C
5	B	15	C	25	A	35	B
6	D	16	D	26	C	36	C
7	B	17	C	27	C	37	C
8	B	18	C	28	A	38	C
9	A	19	A	29	A	39	A
10	D	20	A	30	A	40	A

Exam 4

1	A	11	A	21	C	31	C
2	D	12	B	22	B	32	C
3	B	13	D	23	D	33	D
4	B	14	A	24	A	34	A
5	A	15	A	25	C	35	A
6	C	16	E	26	D	36	B
7	A	17	D	27	D	37	D
8	C	18	B	28	A	38	B
9	B	19	C	29	B	39	D
10	D	20	D	30	C	40	C