General IFR quiz

1> You are planning an IFR charter by day to Balranald (NSW), an aerodrome without navigation aids. In order to avoid an alternate for this destination, which of the following weather criteria would apply?

a) Not more than SCT (3 - 4/8) cloud below LSALT with a visibility of not less than 5,000m.
b) Not more than SCT (3-4/8) cloud below LSALT + 500ft and a visibility not less than 5,000m.
c) Not more than SCT (3-4/8) cloud below LSALT + 500ft and a visibility not less than 8km.
d) Not more than BKN (5-7/8) cloud below LSALT + 500ft and the visibility not less than 8km.

2> If you were are not current for an ILS or LLZ approach you may regain currency by conducting one such approach in VMC or an approved synthetic flight trainer. True or false?

a) True.
b) False.

3> Refer to the Sydney RWY 07 ILS/DME or LLZ/DME approach plate dated 21 Feb 2002. In order to qualify for the use of the Special ALTN Minima of 400/2km for the ILS, the following conditions must be met:

a) Aircraft to be equipped with dual VOR, dual ADF, dual Markers or 1 Marker Receiver and DME.
b) Aircraft to be equipped with dual ILS, dual ADF, dual Markers or 1 Marker Receiver and DME.
c) Aircraft must be equipped with an approved coupled auto-pilot or flight director system with failure warning flags for the attitude and heading reference system.
d) Aircraft to be equipped with dual ILS, dual ADF, dual Markers or 1 Marker Receiver and DME. Aerodrome must have METAR/SPECI or forecasting service and have control service.

4> A TAF is issued for Strahan Tasmania, part of which reads: TAF YSRN 141800 2008 20015 6000 SH BKN 011 INTER 0205 3000 RA. You are planning an IFR PVT flight in an aircraft with all suitable navigation aids with an ETA YSRN of 0525Z. Which of the following statements is correct?

a) No alternate is required provided 30 minutes holding fuel is carried.
b) No alternate is required provided 60 minutes holding fuel is carried.
c) No alternate is required nor holding fuel since the arrival time is outside the INTER period.
d) An alternate is required due to the presence of BKN CLD at 1100 through-out the TAF period.

5> A TAF is issued for Port Hedland (WA), part of which reads: TAF YPPD 190700 0820 20030G40 6000 SH BKN 014. You are planning an IFR PVT flight in a Category B aircraft with all suitable navigation aids with an ETA of 1400Z. The maximum crosswind component for the aircraft is 17kt and all runways are suitable for use by your aircraft. Which of the following statements is correct?

a) No alternate is required since cloud and visibility are above ALTN criteria.
b) An alternate is required due to crosswind and no lighting available for the most into wind runway
c) No alternate is required since cloud and visibility are above ALTN criteria and crosswind does not exceed the component utilising runway 18.

6> You are the holder of a CPL endorsed with a command instrument rating. What are the night recency requirements for the carriage of passengers if the flight is wholly IFR?

a) Three night take-offs and landings within the preceding 90 days or a flight check.
b) Three night take-offs and landings within the preceding 90 days and a night cross country within the preceding six months for CHTR or 12 months for PVT/AWK.
c) 3 take-offs and landings, day or night.
d) No night recency. Must only have met the instrument flight time and approach recency requirements.

7> You are the sole pilot of an IFR light-twin piston-engine aircraft departing Bathurst, NSW. *If* you were considering the use of standard take-off minima, what factors would apply?

a) 300ft ceiling, 2km visibility.
b) Approach minima for the category aircraft at the departure aerodrome.
c) 300ft ceiling, 2km visibility with climb performance to LSALT or MSA then performance and fuel available to continue to a suitable aerodrome, having regard to terrain obstacles and route distance.
d) 0ft ceiling, 800m visibility with a minimum climb gradient of 1.9% following an engine failure.

Flying ops quiz

1> If an aircraft had a useable fuel capacity of 210 litres, a total fuel capacity of 240 litres and a flight planning fuel consumption rate of 40 litres per hour, the maximum available flight fuel, excluding a 45-minute fixed reserve, would be:

a) 240 litres.
b) 210 litres.
c) 180 litres.
d) 150 litres.

2> An acceptable method of complying with a Civil Aviation Regulation would be found in:

a) The VFG.
b) A CAAP.
c) An ANO.
d) A CASR.

3> When sampling fuel from the engine filters during a pre-flight inspection it is prudent to have the fuel selected to a tank containing fuel, primarily because:

a) This is a simple way of verifying that the drain valve has closed properly after the sample has been taken.
b) No fuel will drain from the filter bowl.
c) Air will be cleared from the system.
d) Water from the tanks will immediately be obvious.

4> The possible consequences of a blocked fuel-tank vent are:

a) Engine failure due to fuel starvation.
b) Structural collapse of the wing in some circumstances.
c) Erroneous fuel gauge readings.
d) Fuel expanding due to temperature rise can not escape overboard.

5> The dimensions of a standard CTAF and an MBZ are:

a) CTAF 3,000ft AGL and 5nm radius; MBZ 5,000ft AGL and 15nm radius.
b) CTAF 2,500ft AGL and 3nm radius; MBZ 3,000ft AGL and 15nm radius.
c) CTAF 5,000ft AGL and 3nm radius; MBZ 3,000ft AGL and 10nm radius.
d) CTAF 3,000ft AGL and 8nm radius; MBZ 5,000ft AGL and 10nm radius.

6> On arrival you should operate the pilot activated aerodrome lighting (PAL) when:

a) In the circuit area.
b) Within 15nm and at or above the LSALT.
c) Below 1,500ft above the aerodrome reference point and within range of the PAL receiver.
d) Visual at or below the minima.

7> While in the cruise, VFR by day, in a single-engine aircraft you notice that the centre-zero type ammeter is indicating a prolonged high-charge rate. The most appropriate action would be to:

a) Check for heavy electrical loads.
b) Ignore the indication as it is a sign of a healthy generator.
c) Note the observations in the maintenance release but not necessarily take any other action.
d) Switch off the generator field to avoid overcharging the battery.

8> You are tracking outbound on the 090° radial from a VOR. The omni bearing selector is set to 090° and there is a "FROM" indication. If, without altering the settings of the VOR receiver, you turn through approximately 180° and re-intercept the same radial inbound, the TO/FROM indicator would:

a) Change to indicate TO and, if subsequently leaving the radial to the south, a "fly right" indication would result.
b) Remain indicating FROM and, if subsequently leaving the radial to

8> Which of the following is a true statement regarding auto-pilots when operating IFR?

a) An autopilot is not required for PVT/AWK/CHTR below 5700kg.
b) An autopilot is not required for PVT/AWK but is required for CHTR.
c) An autopilot is not required for PVT/AWK but is required for CHTR or a CPL or higher pilot endorsed on type and with at least a co-pilot instrument rating is utilised.
d) An auto-pilot is required for all IFR operations.

9> When determining the LSALT from an aerodrome without a navigation aid, towards an aid, which of the following angle criteria apply?

a) 10.3° angles to a maximum of 50nm then converge at 15° angles.
b) 15° angles to a maximum of 50nm then converge at 10.3° angles.
c) 10.3° angles to a maximum of 50nm then converge at 10.3° angles.

10> You are planning a night IFR PVT flight to Devonport Tasmania. You note that the aerodrome lighting is PAL. Which of the following statements is correct?

a) An alternate must be planned unless a responsible person has been organised to be in attendance. If not, the alternate may be PAL equipped provided the aircraft has 2 VHF COMMS or has 1 VHF, 1 HF and carries 30 minutes holding fuel.
b) No alternate required if the aircraft has 2 VHF COMMS or has 1 VHF COMM, 1 HF and carries 30 minutes holding fuel.
c) An alternate must be planned unless a responsible person has been organised to be in attendance. The alternate cannot be a PAL equipped aerodrome.
d) No alternate required since Devonport has standby power available.

the south, a "fly left" indication would result.

c) Remain indicating FROM and, if subsequently leaving the radial to the south, a "fly right" indication would result.

d) Change to indicate TO and, if subsequently leaving the radial to the south, a "fly left" indication would result.

9> The ERSA entry for Avalon states under movement area: "18/36 177 100a". This means that RWY 18/36:

a) Is 1,770 metres long 100 metres wide and has an asphalt or bitumen surface.

b) Is 1,770 metres long and the centre bitumen section is 100 metres wide.

c) Is aligned 177° magnetic, has a bitumen surface and the runway length is 10,000 ft.

d) is aligned 177° magnetic, has a bitumen surface and the runway length is 1,000 metres.

10> At an aerodrome with an aerodrome frequency response unit with PAL option (AFRU+PAL), the runway lighting should be actuated by keying the transmitter three times on the CTAF/MBZ frequency:

a) For a maximum of one second.

b) For a minimum of one second.

c) For a maximum of three seconds.

d) For a minimum of three seconds.

Harry Houdini (third from left) with his Voison biplane.

Answer to question on page 10:

Harry Houdini was the first person to make a controlled, powered flight in Australia. On 18 March, 1910, the famous escapologist flew a Voison biplane at Diggers Rest, Victoria. Thirty witnesses watched him cover six miles in 7 minutes 37 seconds, reaching a height of 90 to 100 ft.

Maintenance

1> Who can carry out non-destructive testing (NDT) on a wheel in a component shop?

a) Only an LAME in the airframe category.

b) Only a person approved by an organisation specifically approved under CAR 30 to carry out NDT.

c) Only a person authorised by CASA under CAR 42ZC (6).

d) Only the holder of an Airworthiness Authority for NDT issued under CAR 33B.

2> Can the holder of an Airworthiness Authority supervise the carrying out of non-destructive testing?

a) Yes, if the authority covers the NDT method involved.

b) Yes, if working for the holder of a certificate of approval covering the maintenance.

c) No, on a class A or B aircraft, but yes for component maintenance.

d) No.

3> Can the holder of a Certificate of Approval covering maintenance on aircraft components carry out non-destructive testing of components?

a) No, because NDT is not covered by aircraft component maintenance.

b) No, because only the holder of an Airworthiness Authority for NDT can carry out NDT.

c) Yes, because NDT is maintenance.

d) Yes, but only if their approval specifically covers NDT.

4> Can a LAME, working for a certificate of approval holder, certify for the carrying out of non-destructive testing of an aircraft structural member?

a) Yes, if the LAME is airframe-category rated for the aircraft and the work is carried out by a person qualified as an NDT level 2 or Level 3 person in the NDT method.

b) Yes, if the LAME is airframe category rated for the aircraft and is trained by the certificate of approval holder under CAR 214 to carry out the NDT.

c) Yes, if the LAME is airframe category, rated for the aircraft, and a pressure pack dye penetrant method is used.

d) Yes, if the LAME is any category rated for the aircraft and has been trained by the certificate of approval holder under CAR 214 to carry out the NDT.

5> Which of the following can approve a non-destructive testing procedure for use on an aircraft or aircraft component?

a) A person who is accepted by the Australian Aerospace Non-destructive Testing Committee as Non-destructive Testing Level 3 person, within the meaning of Australian Standard 3669.

b) The holder of an approval under CAR 30 to carry out maintenance including NDT.

c) The holder of an Airworthiness Authority for carrying out NDT.

d) A person delegated for the purpose under CAR 2A (4).

What's the message?

In 25 words or less, tell us what you think is the message to be inferred from the photo. The best entry receives $50 worth of safety aviation products.

Send your entry to: The Editor, Flight Safety Australia, GPO Box 2005, Canberra ACT 2601 or email to: fsa.magazine@casa.gov.au by 10 May, 2002.

Last issue's message

"When I said take a short cut from London to Sydney I meant ROUND not THROUGH…"

Winner:
Ronald Sunderland
Chiswick, NSW

Answers

General IFR Quiz

1 c) AIP ENR 1. 1 - 84 Para 69.3.2
2 a) CAO 40.11 Para '11.43
3 d) AIP GEN 1.5-29 Para 6-2
4 d) YSRN Plate, AIP ENR 1. 1 - 82
5 b) YPPD Plate, AIP ENR 1. 1- 82 Para 69.2.1 Para,69.2.1
6 a) CAR REG, 5 109(b)
7 c) AW ENR 1, 5 - 25 Para 4.2.2
8 c) CAO 20.18 Para 4-1 A, 4-1 B
9 b) AIP GEN 3,3 - 14 Para, A 3.6
10 a) AIP ENR 1. 1 - 95 Para 69-4-4

Flying ops

1 c) Useable fuel of 210 litres, less 30 litres corresponding to 45 minutes, leaves 180 litres (unusable fuel is not reserve fuel)
2 b) CAAP (Civil Aviation Advisory Publication)
3 a) Fuel starvation/exhaustion accidents have occurred because of a flight with an unnoticed open fuel filter drain
4 a) b) c) d) All are possible consequences
5 a) AIP ENR 1.4-4
6 b) ERSA INTRO - 13
7 d) A centre zero ammeter shows the actual charge rate into the battery regardless of loads. A prolonged high charge is usually a sign of regulator failure. This can boil/melt the battery
8 b) with the OBS set to 090° a FROM indication will result at any time the aircraft is east of the VOR 180/360 radial regardless of the heading
9 c) ERSA INTRO - 9; Items 12 & 13.
10 a) AFRU+PAL requires a maximum of one second whereas PAL requires a minimum of one second; ERSA INTRO-13

Maintenance

1 c) CAR 42ZC (5) (b) States, in part, that a person who is employed by a Certificate of Approval holder may carry out (in this case this means physically perform) maintenance if the person is authorised by CASA under sub regulation 42ZC (6). It should be noted that the holders of Airworthiness Authorities for carrying out NDT issued under CAR 33B do not meet this requirement. However, there is a general instrument of appointment that authorises all these Airworthiness Authority holders for this purpose. A copy of this instrument is on the CASA web site:
www.casa.gov.au/avreg/rules/miscinst/index.htm#2002.

2 d) There is a provision in the regulations for a LAME to supervise persons carrying out maintenance on aircraft (CAR 42ZC(3)(b) and (4)(c)) but there is no provision for Authority holders to supervise maintenance on either aircraft or components.

3 c) Yes. Because NDT is maintenance, certificates of approval covering maintenance for aircraft or components approves the carrying out NDT. However, the approval may have a condition (under CAR 30 (3)) restricting the scope of NDT that may be carried out. This answer may appear to contradict the answer to question 1. The explanation for this is that the regulations use "carry out" when referring to being engaged in maintenance under CAR 30 and physically doing maintenance in CAR 42ZC, so in context both the answers are correct.

4 C) The privileges of LAMEs permit persons with the airframe category, rated for the aircraft, to carry out pressure pack dye penetrant method NDT inspections (CAO 100.90 paragraph 2.2).

5 D) NDT procedures are maintenance data (instructions) as defined in CAR 2A (1) and in the answers, only the person in "d" is delegated to approve instructions relating to how maintenance is to be carried out.