Terence Russell *N771TR@aol.com* **Mobile: 240-481-4023**
CFIIAM, Gold Seal, ATP-s *www.1worldaero.com* **Home: 301-495-9185**

INSTRUMENT PROFICIENCY CHECK PRE-TEST

Candidate Name_____ **Date**_____ **Completion**_____

INSTRUMENTATION

1. What specific effect would blockage of the pitot tube have on Pitot static instruments.?

2. What would happen if the static port gets clogged, and what affect does using the alternate static have on the pitot static instruments?

3. Which instruments are the gyroscopic instruments? How are they powered?

UNUSUAL ATTITUDES

1. What pilot action sequence must be taken in the event of a nose low unusual attitude?

2. What pilot action sequence must be taken in the event of a nose high unusual attitude?

3. Why must the wings be leveled before raising the nose in a spiral dive?

COMMUNICATIONS

1. What do the words “clearance on request mean?”

2. What do the words “hold for release” mean? Can an airplane depart IFR without a release? Who grants the release?

3. “November 771TR, from Fort Meade. You are released at 12:20. Time now 12:15. Clearance void if not off by 12:25. If still not off, advise no later than 12:25 of your intentions.”

   Explain your responsibilities given these instructions.

NAVIGATION

1. How can a pilot determine if a VOR receiver is working? A VOR emitter? A Glide Slope Reciever? A Glide slope emitter? An NDB emitter? An ADF receiver? A GPS receiver?

2. How does a pilot avoid reverse sensing?

3. What is the practical difference between a VOR, a VORTAC, and a VORDME to DME equipped aircraft? To GPS equipped aircraft?

4. Draw and label the symbols for a VOR, a VORTAC, and a VORDME.

5. What are the service volumes of High, Low, & Terminal VORs?

6. Can you track inbound to or outbound from over a VOR radial or an NDB bearing?

7. True or False. VORs indicate position or angle from a point, not your direction.

8. Describe standard IFR obstacle clearance provisions along an airway in mountainous and non mountainous areas?

CHARTS & PLATES

1. How does NOS/Jeppesen (choose and specify the chart supplier you primarily use) provide alternate airport information, take off minimums information, both standard and non standard.

2. Where does NOS/Jeppesen (choose and specify the chart supplier you primarily use) provide rate of descent information, and rate of climb per NM information?

3. What is MSA? What is it used for?

4. What is: Draw these symbols.

MCA

MRA

COP

MEA

MOCA

OROCA

MORA

5. How is a feeder route or transition drawn on an approach plate? How is that different from a fix identification line?

6. How can you differentiate between a race track procedure turn symbol and a missed approach hold symbol on an approach plate?

7. Draw the low enroute chart symbol relevant your chart supplier for a distance marker showing a

   a. Fix to fix leg measurement.

   b. Fix to navaid.

   c. Navaid to navaid

APPROACHES

1. What is the VOR frequency range?

2. What is the Localizer frequency range?

3. What is the difference between a Localizer, LDA, and an SDF?

4. How far out, up to what altitude, and across how many degrees of reception arc can a localizer be received? How many radials exist on a localizer?

5. How can you identify a false glide slope?

6. What can you substitute for an inoperative outer marker to legally shoot an ILS?

7. What light and tone is identified with an outer marker on the audio panel?

8. If IFR GPS equipped, what is RAIM? How is it important to your safety on an approach?

9. What does a chart heading of "VOR A" mean on an approach plate?

12. When is a procedure turn required?

13. What are the different types of course reversals?

14. What prelanding check action step does glide path intercept signal when on an approach? (Retractable Gear Pilots)

15. When is it reasonable to initiate a descent during a step down operation of an approach? (Degrees of CDI capture)

16 In terms of CDI capture, when should a pilot execute a missed approach?

17. When being radar vectored, whose responcibility is situational awareness of position?

18. When does the CDI reverse sense? Specify if using a HIS or not.

LOC front Course:

Inbound
Outbound

LOC Back course:

Inbound

Outbound

19. Discuss the importance of the GPS/NAV switch in the initial descent check when shooting IFR approaches. (If IFR GPS equipped)

20. What is your responsibility if you realize that you have not been cleared for the ILS and you are passing over top of the localizer?

HOLDS

1. If an inbound leg took 45 seconds how long should the outbound leg be timed for?

a.
b. If 30 seconds?
c. 20 Seconds

2. No leg should be longer than _____ seconds or less than _____ seconds.

3. If an inbound correction is placed 15 degrees left, then how much outbound correction should be placed and on what side? What minimum and maximum corrections should be applied?

4. Define Protected and Unprotected sides of a hold.

5. What direction of turns is considered to be standard for holds?

6. Will the controller specify the direction of turns for a hold?

7. What type of entry is recommended. Draw the hold, arrival and entry.

   a. Bearing to station 180 degrees
      Radial to hold on 360 Right Turns

   b Bearing to the station 180 degrees
      Radial to hold on 180 Left or Right Turns

   c. Bearing to the station 180 degrees
      Radial to hold on 210 Right turns

8. On a DME hold, how long should the legs be made?

9. On a GPS hold how long are the in and outbound legs?

10. How long are intersection hold inbound and outbound legs?

MISSED APPROACH

1. When can you initiate a missed approach procedure?

2. When can you begin the climb?

3. When can you begin the turn?

CIRCLING APPROACH

1. When can you descend from MDA during a circling approach?

2. When circling, under what conditions can you circle in other than the published direction of turns for that airport? When can you circle along other than a standard pattern?

3. In the event of re-entry into IMC, what initial course should be first established?

4. What are circling approach categories? What protection to they provide?

5. What are the division points between the different categories? What category is your airplane?

6. What category should be used if approaching at a speed which is the division point between two categories?

CLEARANCES & PROCEDURES

1. What is a cruise clearance and what advantages does it provide?

2. What is a block clearance and what advantages does it provide?

3. What is a VFR on Top Clearance?

4. What is a Contact Approach?

5. If arriving at a clearance limit, but still IMC, what pilot action should be taken?

6. What is a LAHSO clearance and what does the acronym stand for?

7. What is LAHSO ALD, & where can you obtain that information?

8. Can you refuse a LAHSO clearance?

9. How can a pilot determine if they can land in the ALD?

10. Can you go around in the event of a botched approach?

11. What is a Visual Approach? Who initiates it? What type of weather conditions must exist at the time it is issued. What must the pilot have in sight in order to accept a visual? How is that different from the issuance of a contact approach?

12. What is a SID or Departure Procedure?

13. What is a STAR or Arrival Procedure?

14. What should you do if you do not want to accept an AP or DP?

15. What airports can you navigate to using an AP plate?

16. What minimum information must the pilot have in order to accept an AP or DP?

17. What is a side step maneuver? When is the pilot expected to complete the sidestep?

FEDERAL AVIATION REGULATIONS

1. What radio reports must be made to ATC when IFR?

2. When can an airplane descend below MDA or DA when IFR?

3. What items comprise the runway environment? (91.175)

4. What special regulation concerns approach lighting and descent below MDA, DA?

5. What aircraft equipment is required to operate IFR?

6. What inspections must be performed to operate IFR?

7. What are the four types of VOR checks ? How are they performed? Which VOR checks are most reliable? Least? Why?

8. What fuel requirements exists when IFR?

9. When is an alternate required to be listed in a IFR flight plan?

10. What type of airport can qualify as a listable alternate?

11. What weather minimums must be forecast at a listable alternate for it to be listed?

12. Must a pilot divert to the listed alternate in the event that arrival at the primary destination is impractical or impossible. Can you divert anywhere?

13. What procedures should be followed in the event of a lost communications situation…

    a. With regard to altitude selected?

b. With regard to route selection?

c. With regard to clearance limit and beginning an approach?

14. Explain what is required to maintain IFR currency?

15. Define IMC

16. What are take off minimums? Who must abide by them?

PARTIAL PANEL

1. Compass turns

a. When turning through the West to a heading of 210, what heading should you initiate your roll out on?

b. When turning through the East to a heading of 340, what heading should you roll out on?

c. What heading should you roll out on when turning to a heading of East?

2. Are compass turns better for long turns or short turns? How about timed turns? Why?

DME ARCS

1. How far out should you lead your turn to join the arc? How many degrees is the initial turn?

2. How do you maintain your distance within the arc?

3. Is it easier to correct from outside to inside the arc or inside to outside? Why?

4. How do you determine your progress along the arc?

5. How soon before the arc's end radial should you lead the turn to exit the arc?

WEATHER

1. Does AWOS report ceilings in AGL or MSL?

2. What does a close temperature dew point spread imply?

3. What is the difference between relative humidity and dew point?

4. What type of weather is associated with fast moving cold fronts?

5. What winter icing hazard is associated with arriving warm fronts?

6. At what time of day is fog statistically most likely?

7. What affect does frost have on an airplane that is departing?

8. Compare and contrast the rate of formation and dissipation and types of condusive conditions of clear ice, rime ice, and mixed ice.

9. What ingredients are needed for a thunderstorm to develop? When is it likely to find these ingredients? Where for example?

10. What is a microburst, and what is its relationship to thunderstorms? What hazards does it create? How can you identify the existence of a microburst in the vicinity?

11. What hazards are created by a thunderstorm and how far should an airplane be piloted away from a severe cell?

12. Which flight hazards are associated with Thunderstorms.

13. Compare and contrast FAs, TAFs, METARS, and PIREPS? How often are they issued? How long are they valid?

14. What is the hazard corresponding to airmet:

    a. Tango

    b. Sierra

    c. Zulu

15. What is a sigmet? When is it issued? How is that different from a convective sigmet? When is it issued?

16. What will happen to your IAS as ice builds up on the aircraft?

17. Describe the procedure for approaching to land when carrying in flight icing? Why is there generally a danger of a tail stall if the flaps are lowered?