

## Instrument Exam

### September 2021

1. Which altitude is indicated when the altimeter is set to 29.92" Hg?
  - a. Density
  - b. Pressure
  - c. Standard
  - d. Absolute
  
2. When airspeed is increased in a turn, what must be done to maintain a constant altitude?
  - a. Decrease the angle of attack.
  - b. Increase the angle of bank and/or decrease the pitch attitude.
  - c. Decrease the angle of bank.
  - d. Decrease the angle of bank and/or increase the pitch attitude.
  
3. When is the wind group at one of the forecast altitude omitted at a specific location or station in the Winds and Temperatures Aloft Forecast (FD)?
  - a. Is less than 5 knots.
  - b. Is less than 10 knots.
  - c. At altitude less than 3,000 feet AGL.
  - d. At any altitude that is within 1,500 feet of station elevation.

4. Interpret this PIREP.

CVG UA/OV CVG/TM1430/FL060/TPPA28/SK BKN BL/WX RA/TB MDT

- a. At 6,000 feet, between layers, rain and moderate turbulence.
  - b. Ceiling 6,000 feet AGL, rain west of the reporting point, light to moderate turbulence.
  - c. At FL600, 30 miles SW of Cincinnati, broken ceilings, light rain and turbulence.
  - d. Ceiling 6,000 feet MSL, rain and turbulence.
  
5. How long does a pilot meet the recency of experience requirements for IFR flight after successfully completing an IPC if no further IFR flights are made?
  - a. 90 days
  - b. 120 days
  - c. 6 months
  - d. 12 calendar months

6. What are the minimum qualifications for a person who occupies the other control seat as a safety pilot during simulated instrument flight?
  - a. Private Pilot Certificate with the appropriate category and class rating for the aircraft.
  - b. Private pilot certificate with instrument rating and at least a Third Class Medical Certificate.
  - c. Private Pilot Certificate with the appropriate category and class rating for the aircraft and at least Basic Med.
  - d. Private Pilot Certificate with the appropriate category and class rating for the aircraft and at least a Third Class Medical Certificate.
  
7. To meet instrument experience requirements of 14 CFR Part 61.57 (c), a pilot enters the condition of flight in the pilot logbook as simulated instrument conditions, what other qualifying information must also be entered?
  - a. Location and type of each instrument approach completed and name of safety pilot.
  - b. Number and type of instrument approaches completed and route of flight.
  - c. Name and pilot certificate number of safety pilot and type of approaches completed.
  - d. Number of holds, approaches completed and certificate number of the safety pilot.
  
8. What are the MacAir Aero Club minimum fuel requirements in IFR conditions, if the first airport of intended landing is forecast to have a 1,500 foot ceiling and 3 miles visibility at flight-planned ETA? Fuel to fly to the first airport of intended landing...
  - a. And fly thereafter for 30 minutes at normal cruising speed in still air.
  - b. And fly thereafter for 60 minutes at normal cruising speed.
  - c. And fly to the alternate, and fly thereafter for 60 minutes at normal cruising speed.
  - d. And fly to the alternate, and fly thereafter for 45 minutes at normal cruising speed.
  
9. When a pilot elects to proceed to the selected alternate airport, which minimums apply for landing at the alternate?
  - a. 600-1 if the airport has an ILS.
  - b. Ceiling 200 feet above the published minimum, visibility 2 miles.
  - c. The landing minimums for the approach in use.
  - d. Be able to descend in VFR conditions from the FAF.
  
10. When may a pilot cancel the IFR flight plan prior to completing the flight?
  - a. On the ground only.
  - b. Any time.
  - c. Only if an emergency occurs.
  - d. Only in VFR conditions when not in Class A or B airspace.
  
11. How is your flight plan closed when your non-towered destination airport has IFR conditions?
  - a. The ARTCC controller will close your flight plan when you report the runway in sight.
  - b. You may close your flight plan any time after starting the approach by contacting any FSS or ATC facility.
  - c. Upon landing, you must close your flight plan by radio or by telephone to any FSS or ATC facility
  - d. In the air by calling Flight Watch on 122.0.

12. The weather at Greene County is 300 SCT, 700 BKN and 3 SM BR when you are ready to depart IFR. Which method(s) for obtaining an IFR clearance is/are the best option, given the circumstances?
1. Call a Flight Service Station (800 992-7433)
  2. Call the National IFR Clearance Delivery (888 766-8267)
  3. Call Columbus Approach (614 338-8537)
  4. Activate your IFR clearance via Foreflight
  5. Take-off VFR and contact Columbus Approach (126.5 MHz)
- a. 1, 2
  - b. 3
  - c. 4, 5
  - d. 2, 5
13. When departing from an airport not served by a control tower, the issuance of a clearance containing a void time indicates that
- a. ATC will assume the pilot has not departed if no transmission is received before the void time.
  - b. The pilot must contact ATC by the void time prior to entering controlled airspace.
  - c. The pilot must advise ATC as soon as possible, but no later than 30 minutes (or as directed), of their intentions if not off by the void time.
  - d. ATC will protect the airspace until contacted by the Pilot in Command.
14. If an early missed approach is initiated before reaching the MAP, the following procedure should be used unless otherwise cleared by ATC.
- a. Proceed to the missed approach point at or above the MDA or DA before executing a turning maneuver.
  - b. Begin a climbing turn immediately and follow missed approach procedures.
  - c. Maintain altitude and continue past MAP for 1 minute or 1 mile whichever occurs first.
  - d. Start your MAP as soon as a deviation from the approach requirements is noted.
15. While being radar vectored, an approach clearance is received. The last assigned altitude should be maintained until
- a. Reaching the FAF.
  - b. Advised to begin descent.
  - c. Established on a segment of a published route or IAP.
  - d. Only after passing the Intermediate Fix (IF).
16. With a GPS like the Garmin 430W that has WAAS capability, what is the significance of “LNAV+V” being displayed?
- a. Advisory vertical guidance is provided as an aid to the pilot during the descent to the runway.
  - b. Approved vertical guidance to descend to the decision altitude is provided to a pilot.
  - c. Vertical guidance meet the standards of an LPV approach.
  - d. Advisory vertical guidance is provided to the pilot that must be used in lieu of published stepdown fixes on the instrument approach.

17. How does the pilot know during pre-flight that the GPS is communicating with the G5?
- The vertical deviation indicator on the OBS is half down; the lateral deviation indicator is half right, annunciators are OFF .
  - The vertical deviation indicator on the OBS is half up; the lateral deviation indicator is half left, annunciators are ON.
  - G5 CDI will change colors from green to magenta.
  - There is no way to check this prior to flight
18. Alignment of the G5 unit
- Can only be accomplished while the airplane is stationary on the ground.
  - Can be accomplished in flight during climb and descent only.
  - Can be accomplished while taxiing and during level flight.
  - It's not possible while the engine is running.
19. An (!) indicator appears on the left corner of the EADI or EHSI to alert the pilot of:
- A new message has been received by the unit.
  - An altitude or heading tolerance has been exceeded.
  - The GPS is in SUSP MODE.
  - WAAS signal has been lost.
20. According to the G5 figure below you are:



- Southwest of the VOR flying towards the selected radial.
- Northeast of the VOR flying towards the selected radial.
- Southeast of the VOR flying towards the selected radial.
- Northeast of the VOR correcting away from the selected radial due to reverse sensing.