MACAIR AVIATION

AERO CLUB

Pre-Solo Cross Country Exam

June 2018

(Required passing score: 80%)

Figures can be found in FAA Computer Test Supplement for Private Pilot (FAA-CT-8080-2H) at:

https://www.faa.gov/sites/faa.gov/files/training_testing/testing/supplements/sport_rec_private_akts.pdf

1. As a Private Pilot what document(s) must be in your personal possession or readily accessible in the aircraft while operating as pilot in command of an aircraft?
    a. A pilot certificate with an endorsement showing accomplishment of an annual flight review, a pilot logbook showing recency of experience and a photo ID.
    b. An appropriate pilot certificate, an appropriate current medical certificate and a photo ID.
    c. Certificates showing accomplishment of a checkout in the aircraft, a current flight review and a photo ID.

2. Who is responsible for determining if an aircraft is in condition for safe flight?
    a. The pilot in command.
    b. A certificated aircraft mechanic.
    c. The owner or operator.

3. In addition to other preflight actions for a VFR flight away from the vicinity of the departure airport, regulations specifically require the pilot in command to:
    a. determine runway lengths at airports of intended use and the aircraft's takeoff and landing distance data.
    b. review traffic control light signal procedures.
    c. Check the accuracy of the navigation equipment and the emergency locator transmitter (ELT).

4. Except when necessary for takeoff or landing, what is the minimum safe altitude required for a pilot to operate an aircraft over congested areas?
    a. An altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
    b. An altitude of 1,000 feet above any person, vessel, vehicle, or structure.
    c. An altitude of 500 feet above the highest obstacle within a horizontal radius of 1,000 feet of the aircraft.

5. Except when necessary for takeoff or landing, what is the minimum safe altitude required for a pilot to operate an aircraft over other than a congested area?
    a. An altitude of 500 feet above the highest obstacle within a horizontal radius of 1,000 feet.
    b. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
    c. An altitude of 500 feet AGL, except over open water or a sparsely populated area, which requires 500 feet from any person, vessel, vehicle, or structure.

6. When approaching to land on a runway served by a visual approach slope indicator (VASI), the pilot shall

a. remain on the glide slope and land between the two-light bar.
b. maintain an altitude at or above the glide slope.
c. maintain an altitude that captures the glide slope at least 2 miles downwind from the runway threshold.

7. The minimum distance from clouds when VFR on an airway below 10,000 ft is:

a. 500 feet above, 1,000 feet below and 2,000 feet horizontally
b. Remain clear of clouds
c. 500 feet below, 1,000 feet above and 2,000 feet horizontally

8. In addition to a valid Airworthiness Certificate, what documents or records must be on board an aircraft during flight?

a. Aircraft engine and airframe logbooks, and owner's manual.
b. Radio operator's permit, and repair and alteration forms.
c. Pilot Operating Handbook and Registration Certificate.

9. A 100-hour inspection was due at 3302.5 hours. The 100-hour inspection was actually done at 3309.5 hours. When is the next 100-hour inspection due?

a. 3312.5 hours.
b. 3402.5 hours.
c. 3409.5 hours.

10. How will frost on the wings of an airplane affect takeoff performance?

a. Frost will disrupt the smooth flow of air over the wing, adversely affecting its lifting capability.
b. Frost will cause the airplane to become airborne with a higher angle of attack, decreasing the stall speed.
c. Frost will change the camber of the wing, increasing its lifting capability

11. Which condition is most favorable to the development of carburetor icing?

a. Temperature between 20 deg F and 70 deg F and high humidity
b. Any temperature below freezing and a relative humidity of less than 50%
c. Temperature between 32 deg F and 50 deg F and low humidity

12. How should the flight controls be held while taxiing a tricycle-gear equipped airplane with a left quartering tailwind?

a. Left aileron down, elevator down
b. Left aileron up, elevator down
c. Left aileron up, elevator neutral

13. What conditions are necessary for the formation of thunderstorms?

a. High humidity, high temperature, and cumulus clouds.
b. High humidity, lifting force, and unstable conditions.
c. Lifting force, moist air, and extensive cloud cover.

14. To get a complete weather briefing for the planned flight, the pilot should request:
    a. a general briefing.
    b. a standard briefing.
    c. an abbreviated briefing

15. (Refer to Figure 12.) What are the wind conditions at Wink, Texas (KINK)?
    a. Calm.
    b. 110° at 12 knots, gusts 18 knots.
    c. 111° at 2 knots, gusts 18 knots.

16. What values are used for Winds Aloft Forecasts?
    a. True direction and knots.
    b. Magnetic direction and miles per hour.
    c. Magnetic direction and knot

17. (Refer to Figure 21.) What is the estimated time en route from Mercer County Regional Airport (area 3) to Minot International (area 1)? The wind is from 330° True at 25 knots and the true airspeed is 100 knots. Add 4 minutes for departure and climb-out.
    a. 44 minutes.
    b. 47 minutes.
    c. 52 minutes

18. (Refer to Figure 22.) What is the estimated time en route for a flight from St. Maries Airport (area 4) to Priest River Airport (area 1)? The wind is from 300° True at 14 knots and the true airspeed is 90 knots. Add 3 ½ minutes for climb-out.
    a. 48 minutes.
    b. 45 minutes.
    c. 40 minutes.

19. (Refer to Figure 25, Area 3.) If the tower at Dallas Executive (KRBD) is not in operation, which frequency should be used as a Common Traffic Advisory Frequency (CTAF) to monitor airport traffic?
    a. 122.95 MHz.
    b. 126.35 MHz.
    c. 127.25 MHz.

20. When entering the VFR traffic pattern at the destination airfield a student pilot should:
    a. Preface every radio call with “Student Pilot initial cross country”
    b. Normally enter the pattern in level flight, abeam the midpoint of the runway at pattern altitude on a 45° to the downwind leg
    c. Make only one pattern to a full stop landing

21. What action can a pilot take to aid in cooling an overheating engine during climb?
    a. Increase climb speed and increase RPM
    b. Reduce climb speed and increase RPM
    c. Reduce rate of climb and increase airspeed

22. (Refer to Figure 36.) What is the crosswind component for a landing on Runway 18 if the tower reports the wind as 220° at 30 knots?
    a. 23 knots.
    b. 19 knots.
    c. 30 knots.

23. (Refer to Figure 36.) What is the maximum wind velocity for a 30° crosswind if the maximum crosswind component for the airplane is 12 knots?
    a. 16 knots.
    b. 20 knots.
    c. 24 knots.

24. (Refer to Figure 40.) Determine the total distance required for takeoff to clear a 50-foot obstacle.
OAT .....Standard
Pressure altitude .....4,000 feet
Takeoff weight .....2,800 lb
Headwind component .....Calm
    a. 1,600 feet.
    b. 1,800 feet.
    c. 2,000 feet.

25. (Refer to Figure 37.) Determine the approximate total distance to land over a 50 ft obstacle.
OAT – Standard
Pressure altitude – 4,000 feet
Takeoff Weight – 2,800 lbs
Headwind – Calm
    a. 1,775 feet
    b. 1,950 feet
    c. 2,000 feet

26. (Refer to Figure 48.) That portion of the runway identified by the letter A may be used for:
    a. taxiing and takeoff on Runway 12; and landing roll (on Runway 30)
    b. landing (on Runway 12)
    c. taxiing and takeoff (on Runway 30)

27. All operations within Class C airspace must be in:
    a. accordance with instrument flight rules
    b. an aircraft equipped with a transponder with Mode C encoding ability (and ADSB-Out after Jan 1, 2020) and in contact with the controlling authority (e.g., approach control)
    c. daytime conditions prior to official sunset

28. (Refer to Figure 49.) Select the proper traffic pattern and runway for landing:
    a. Right hand traffic on Runway 18
    b. Left hand traffic on Runway 18
    c. Left hand traffic on Runway 22

29. (Refer to Figure 50.) The segmented circle indicates that the airport traffic is
    a. left-hand for Runway 36 and right-hand for Runway 18.
    b. left-hand for Runway 18 and right-hand for Runway 36.
    c. right-hand for Runway 9 and left-hand for Runway 27.

30. After landing at a tower controlled airport, when should the pilot contact ground control?
    a. After reaching a taxiway that leads directly to the parking area
    b. Prior to turning off the runway
    c. When advised by the tower to do so

31. (Refer to Figure 51.) If more than one cruising altitude is intended, which should be entered in Block 15 of the ICAO flight plan (or Block 7 of the Domestic Flight Plan [not shown in Figure 51])?
    a. Highest cruising altitude.
    b. Lowest cruising altitude.
    c. Initial cruising altitude.

32. (Refer to Figure 51.) What information should be entered in Block 19 of the ICAO Flight Plan (or Block 12 of the Domestic Flight Plan [not shown in Figure 51]) for a VFR day flight?
    a. The estimated time en route plus 30 minutes.
    b. The estimated time en route plus 45 minutes.
    c. The amount of usable fuel on board expressed in time.

33. The greatest vortex strength occurs when the generating aircraft is:
    a. Light, dirty and fast
    b. Heavy, dirty and fast
    c. Heavy, clean and slow

34. Wingtip vortices created by large aircraft tend to:
    a. Sink below the aircraft generating turbulence
    b. Rise into the takeoff or landing path of a crossing runway
    c. Rise into the traffic pattern

35. (See Figure 52) Traffic patterns in effect at Lincoln Municipal are:
    a. Left hand for Runways 17 & 36; Right hand for 18 & 35
    b. Right hand for Runways 14 & 32
    c. Left hand for Runways 18 & 35; Right hand for 17 & 36

36. Weather minimums for MacAir student solo cross country flight are:
    a. 1000 ft ceiling, 3 sm visibility
    b. 3000 ft ceiling, 5 sm visibility
    c. 1500 ft ceiling, 3 sm visibility

37. For student pilot solo cross country flight, these documents must be in the student pilot's possession
    a. Student pilot certificate, medical certificate, logbook endorsed for cross country flight and the flight being executed, and a photo ID
    b. Pilot logbook, aircraft logbooks, and a photo ID
    c. Student pilot certificate, medical certificate, and a photo ID

38. On departure you should activated your flight plan with:
    a. Flight Service on any published frequency
    b. Wright-Patterson tower on 126.9 MHz
    c. Columbus Approach Control on 327.1 MHz

39. A MacAir student solo cross-country flight must be completed no later than:
    a. One hour after sunset
    b. Fifteen minutes after sunset
    c. Sunset

40. When making routine transponder code changes, pilots should avoid inadvertent selection of which codes?
    a. 3100, 7600, 7700
    b. 7500, 7600, 7700
    c. 7000, 7600, 7700