

Edmonton Flying Club

Cessna 172 Open Book Exam

Member Name: _____

Member Number: _____

Part 1: Limitations

1. List the following airspeeds:

- a. Never exceed speed (Vne) _____
- b. Maximum structural cruise speed (Vno) _____
- c. Manoeuvring speed (Va) _____
- d. Flap extension speed (Vfe) _____
- e. Stall speed cruise (Vs) _____
- f. Stall speed in landing configuration (Vso) _____
- g. Best glide speed (Vglide) _____
- h. Rotation speed (Vr) _____
- i. Best angle of climb (Vx) _____
- j. Best rate of climb (Vy) _____

2. List the following weights:

- a. Basic empty weight _____
- b. Maximum takeoff weight _____
- c. Useful load _____
- d. Maximum baggage weight in both areas _____
- e. Maximum fuel weight _____

3. What is the appropriate fuel grade and colour?

4. What is the minimum and maximum oil quantity for this aircraft and what type do we use?

5. Center of Gravity Range

- a. Forward _____
- b. Rear _____

6. Electrical System

- a. What is the Battery Voltage?
- b. How does the alternator operate?

7. What is the Maximum demonstrated x-wind component for this aircraft?

8. If you are departing runway 16 and the winds are reported on the METAR as 20010KT are you within the limits of this aircraft?

9. At what temperature do the baffles have to go on the C172 in the winter time? What is the purpose of them?

Part 2: Practical Application

1. What are the following applicable frequencies?

- a. CYXD ground _____
- b. CYXD tower _____
- c. CZVL ground _____
- d. CZVL tower _____
- e. CFB6 (Josephberg) _____
- f. CEZ3 (Cooking Lake) _____
- g. West Practice Area _____
- h. Enroute _____
- i. Intl Advsy from the south _____
- j. Intl Advsy from the north _____
- k. Intl Twr _____

2. What are the following phone numbers:

- a. CYXD tower _____
- b. WX FSS _____

3. With the winds at your 7 o'clock position, what would your control inputs be during taxi?

4. During the pre-flight inspection

- a. Location & number of fuel drains _____
- b. Purpose of checking fuel _____
- c. Tightness of oil dipstick _____
- d. Tire pressure _____
- e. Location of VHF radio antenna _____

5. Braking system: If co-pilot experiences brake failure, what happens to pilot's braking ability?

6. Mixture Control: How is the mixture regulated by the pilot to achieve the best fuel to air ratio?

7. When you're inbound to CYXD from north of the field, when must you contact city tower?

8. What are the preferred VFR routes

- a. To and from CZVL _____
- b. To and from West Practice area _____
- c. To and from CFB6 _____

9. When signing out an aircraft for a flight to CER3 and back you notice that the aircraft is scheduled for its 50 hour inspection the next day and has already been signed off for the additional 10 hours. The journey log shows that you have 1.5 hours remaining from the extended number. Can you take the aircraft flying? Should you fly your intended route?

Section 3: Aircraft Performance

1. Fuel consumption and TAS under the following conditions:

- a. Altitude 4000ASL
 Altimeter 29.30 " Hg GPH _____
 2400 RPM TAS _____
 Temp +11C

2. Take off Distance

- Temp 20C
 Pressure alt. 4000ft
 Weight 2100
 Wind 300 at 10T
 Runway 30, hard surface
 Take off distance to clear a 50 ft Obstacle _____

3. Complete the following Weight and Balance (as applicable to the aircraft you are flying)

Cessna 172 N/P

Item	Weight	Arm	Moment
Aircraft	1454lbs	57.6	
Pilot & Front Passenger	328lbs		
Rear Passenger	160lbs		
Baggage	40 lbs in area 2		
Fuel 30gallons			
Total			

Cessna 172 SP

Item	Weight	Arm	Moment
Aircraft	1676lbs	41.3	
Pilot & Front Passenger	328lbs		
Rear Passenger	160lbs		
Baggage	40 lbs in area 2		
Fuel 30gallons			
Total			

- What is the location of the Center of Gravity
- Are we within the limits of this aircraft?
- Can we go flying? If not, what could be done to make the aircraft within limits?

Section 4: Emergency Procedures

1. It's a warm summer day and you are flying on a x-country from CYXD to CYQF for lunch. Shortly after you have been cleared enroute from CYEG you notice a strange smell in the cabin and it appears that there is some smoke coming from the dash. What do you do? Be sure to explain all actions up to landing.

2. You have been cleared into CYXD airspace and cleared to join the left base for runway 16 from the Bon Accord area. As you get closer in, you notice that no radio calls have gone through since your last call. Prior to descending to circuit altitude, you notice another aircraft that appears to be joining the left downwind rwy 16 and is within 2 miles of you at the same altitude. You make a radio call and turn onto a wide left base. There is no response. What do you do?

3. It's the end November and Edmonton has just had its first big snow fall of the season. The temperature is sitting at 0C and the dew point is +2C, winds are light and the ceiling is high overcast. You are flying out towards Camrose and have just passed by the small airport of Tofield. All of a sudden you notice that your aircraft seems to be losing power and you're finding that it's harder to maintain altitude without increasing your RPM. What do you do?

4. City center airport hosts the INDY races in July and runways 12-30 are closed. You are taking a close friend for their first flight after being cancelled 3 times due to weather. You taxi out for rwy 16 and stop to do a quick run up prior to departure. During your run up, you test the magnetos and the left mag shows a drop off 175 RPM and runs rough. You try the right mag and the engine loses just under 150 RPM and is also rough, but not as bad as the left mag. Your passenger really wants to go and is pushing to get airborne because he is getting hot. What do you do?

5. You have just finished a check on type in a C172 and are taking two of your good friends for a flight. You have been flying for about an hour over a forested area with very little open space. You look down to check your altitude and heading and notice that your GPS and radio navigation equipment appear to be off and your radio communication equipment lights are dim. Your turn and bank indicator also appears to be acting strangely. What is wrong with your aircraft and what would you do?

6. Just after leveling off you notice that your Oil temp gauge is no longer indicating any pressure but your oil pressure appears to be fine and the engine is running smoothly. The temperature is +10C, dew point +12C, and the aircraft just came back from its 100 hour inspection. What could be wrong with the aircraft and how would you handle the situation?

7. The aircraft has just come back from its routine 50 hour inspection and you are taking it up for some review circuits at CZVL. As you attempt to start the aircraft the engine back fires a few times and will not turn over. You let the starter cool down for 30 seconds and decide to try one more time. As you turn the key you notice smoke coming from the cowling. How do you handle the situation?

Student Name: _____

Marked to 100% by: _____

Date: _____

Check on Type Checklist

1. Tour of Edmonton Flying Club facilities. Shown fuel disposal and oil addition.

_____ Date & Signature

2. Check on type exam written, passed and corrected.

_____ Date & Signature

3. Membership completed and shown online booking system.

_____ Date & Signature

4. Explanation and competency check on aircraft documentation and sign out & in procedures.

_____ Date & Signature

5. Check flight(s) with instructor completed and up to flight test standards.

_____ Date & Signature

6. Current photocopies of License, Medical, and Radio.

_____ Date & Signature