Ottawa Flying Club PPL Flight Operations

Reference Material:
- From The Ground Up (FGU)
- The Aeronautical Information Manual (AIM)
- The Canada Flight Supplement (CFS)
- Supplemental references can be used at your discretion

Subsection 1: GENERAL

1) You are flying an approach and are cleared to land. The controller also asks you to "hold short" of an intersecting runway. Do you have to land? Explain.

2) Discuss the problem of wake turbulence and steps you can take to avoid it.

3) What are the dangers of flying too close to a thunderstorm? Explain how to properly avoid a thunderstorm if one is encountered.

4) The possibility of a mid-air collision affects all pilots. Where are they most likely to occur? What steps as pilots, can we take to avoid them?

5) How are runways numbered? Why does this differ in Northern Canada?

Subsection 2: AIRCRAFT PERFORMANCE

1) How does a high altitude take-off compare to a sea level take-off? Why? Does the humidity of the air effect the performance of the aircraft?

2) Why does an aircraft have an "absolute ceiling" i.e. it cannot climb any more.

3) What is the difference between best angle and best rate of climb? Give a scenario for each.

4) Define manoeuvring speed. What effect, if any, does the weight of the aircraft have on it? Why?

5) Both flying and gliding for range are found at the same aerodynamic condition. What is this condition and what does it mean?

6) The lowest possible fuel consumption is found at the lowest possible airspeed while still maintaining flight. Is this statement true or false? Explain.

7) Great care must be exercised when taxiing, to avoid puddles of water. Especially in the winter and in low wing aircraft. Why?

Subsection 3: PERFORMANCE CHARTS

1) Define the following Speeds:
   Vs, Va, Vno, Vfe, Vlo, Vne, Vx, Vy.

2) Describe the adverse effects that slush and snow will have on the take-off run. Describe the adverse effects that ice will have on a landing run.

3) How will a take-off on wet grass runway compare to a dry concrete runway in terms of distance required and aircraft controllability?

4) Using the C-1 50 handbook calculate the actual amount of fuel used on a 2.5 hour trip at 4000 ft (2400 rpm). Assume -30 Celsius at altitude. Is this the amount that you should include in your flight planning? Explain.

Subsection 4: WEIGHT & BALANCE

1) Define the following terms:
   - i) Reference datum
   - ii) Arm
   - iii) Moment
   - iv) Center of Gravity (Cof G)

2) Using the C-150 handbook find the C of G range for the aircraft at its maximum gross weight of 1600 lbs. (Expressed in inches aft of datum)

3) Complete a full weight and balance as if you were going on a trip with a 170 lb friend with 10 lbs of baggage. You weigh 175 lbs. Can full fuel be carried? If not, how much will have to be removed?

4) Before going on a trip you calculate the weight and balance to be within limits. Does this automatically mean that it will be within limits for the whole trip? If not what steps can be taken to ensure that it does?

5) What is the difference between the Utility category and the Normal category?

Subsection 5: SEARCH & RESCUE (S.A.R)

1) What is an ELT? Briefly describe how it works.

2) What are the conditions regulating the testing of an ELT?

3) You are flying in the practice area north of Ottawa when you experience an emergency situation. What steps will you take to notify someone of your predicament? What steps would you take under the same circumstances, but, in Northern Ontario?

4) What is the difference between a Distress situation and an Urgency situation?

5) List some basic survival techniques that may be used after an off airport landing occurs. Include actions that may help you to be seen by S.A.R. crews.

Subsection 6: EXTRA QUESTIONS

1) Discuss the phenomenon of "cold soaking" and its effects, even on warm days.

2) You arrive at the airport to go flying and find your aircraft covered in ice and snow. After putting it in the hangar to de-ice you pour hot water on it to speed up the process. Is this a good idea? Explain your answer.

3) List the steps that should be taken in the event of an engine failure.

4) During a practice spin you become disoriented. You feel that you may be in a spiral dive. How can you tell what recovery action to take? What is the minimum safe altitude that recovery must be completed by?