1. What is the total fuel capacity with long range tanks, how much fuel is unusable in each tank? (2-8)
   a. 80 / 2.5
   b. 75 / 2.5
   c. 61 / 3
   d. 56 / 4

2. What is the engine oil SUMP capacity? ________________ (1-4)

3. Minimum oil quantity for flight of less than 3hrs? ________________ (1-4)

4. What are the following airspeed limits (2-4 / 4-3)
   Vne ________
   Vno ________
   Va ________
   Vfe ________
   Vx ________
  Vy ________
   Vs ________
   Vs ________
   Vso ________
   Best Glide ________

5. Engine Fire during start (engine fails to start) (3-5)
   a. ________________
   b. ________________
   c. ________________
   d. Secure Engine
      1. ________________  2. ________________  3. ________________
6. Spins are not an approved maneuver ________  (3-13)
   True
   False

7. Emergency actions for an electrical fire in-flight?  (3-6)
   a. ________________________________
   b. ________________________________
   c. ________________________________
   d. ________________________________

8. If erroneous readings of the static source instruments are suspected, what corrective action can you take?  (3-8)
   a. Turn on the pitot heat
   b. Open the cockpit window to stabilize the air pressure
   c. Switch to the alternate static source
   d. Fly out of the turbulent air conditions

9. Failure of the vacuum pump will cause which instruments to fail?  (3-11)
   a. Heading & Altimeter
   b. Heading & Attitude
   c. Vertical Speed & Altimeter
   d. Airspeed & Altimeter

10. What are your emergency actions if the ammeter shows a discharge?  (3-8)
    a. ______________________________
    b. ______________________________
    c. ______________________________
    d. ______________________________

11. During flight you get an Over-Voltage warning light, what are your emergency actions?  (3-8)
    a. ______________________________
    b. ______________________________
    c. ______________________________
    d. ______________________________
    e. ______________________________
12. What RPM is use during run-up for the magneto check. Minimum RPM for takeoff with full throttle
______________________  (4-7)

13. What are the maximum demonstrated crosswind limits for takeoff and landing
  Takeoff __________; Landing __________  (4-3)

14. What flap setting, and airspeed is used for a short field takeoff until obstacles are cleared?
   ____________________________________________________________  (4-8)

15. What flap setting, and airspeed is used for a soft field takeoff until obstacles are cleared?
   ____________________________________________________________  (5-12)

16. What flap setting, and airspeed is used for a short field landing?
   ____________________________________________________________  (4-18)

17. During a full flap landing a go-around must be executed, what flap setting do you use, and initial
  airspeed? ________________Retract flaps to ________________  (4-10)

18. Cruise power is in the range of ________________ power.  (4-15)

19. During very cold weather operations, if there is no oil temperature indication after 2-5 minute
  Warm-up at 1000rpm, what is an acceptable engine indication that the engine is ready for
  takeoff.  (4-20)
   ________________________________________________________________

The following data is used for the performance questions.

Cessna182Q empty weight 1808.45, CG 38.85, moment 70259.41
Pilot - 170lbs, Front seat Pax 150lbs, (320lbs), Arm - 37”, mom 11840
Fuel – 75gals, 450lbs, Arm 46”, moment – 20700
Baggage area A 75lbs, arm 97”, moment – 7275
Departure airport KXXX 6000’ 20C, Cruise altitude 10,000’, destination KYYY 3000’ 20C
Cruise power 2200rpm, 19”mp, standard temperature
20. What is the gross weight and Center of Gravity ____________________________________________

21. Calculate the time, fuel and distance to climb to 10,000’ at 90K at standard temperature
   _________________________________________________________________________________

22. calculate the fuel required for a 3hr flight
   a. fuel burn
   b. reserve fuel per aero club requirements
   c. total required fuel

23. Takeoff distance; Ground roll ___________, To clear a 50’ obstacle _______________

24. Landing distance; To clear a 50’ obstacle, ___________ Ground roll ______________

25. During Descent the cowl flaps should be?
   a. open
   b. closed

26. what is the purpose of the cowl flaps?
   _________________________________________________________________________________