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INSTRUMENT STUDY 5

Candidate Name _____ Date _____ Completion _____

WEATHER

1. Does AWOS report ceilings in AGL or MSL?
2. What does a close temperature dew point spread imply?
3. What is the difference between relative humidity and dew point?
4. What type of weather is associated with fast moving cold fronts?
5. What winter icing hazard is associated with arriving warm fronts?
6. At what time of day is fog most likely?
7. What affect does frost have on an airplane that is departing?
8. Compare and contrast the rate of formation and dissipation and types of conducive conditions of clear ice, rime ice, and mixed ice.
9. What ingredients are needed for a thunderstorm to develop? When is it likely to find these ingredients? Where for example?

10. What is a microburst, and what is its relationship to thunderstorms? What hazards does it create? How can you identify the existence of a microburst in the vicinity?

11. What hazards are created by a thunderstorm and how far should an airplane be piloted away from a severe cell?

12. What are the three stages of a thunderstorm?

13. Which flight hazards are associated with these stages?

14. When can you expect windshear:
 - a. Aloft?

 - b. On the surface?

15. What is the approximate base of the clouds if field elevation is 1500 ft msl, and the temperature is 30 and the dewpoint is 25 celsius?

16. What is...
 - a. Advection fog?
 - b. Upslope fog?
 - c. Precipitation fog
 - d. Steam fog
 - e. Radiation fog

17. What are TAFs? How often are they issued? How long are they valid?

18. What are FAs? How often are they issued? How long are they valid?

19. What is HIWAS and where can you find it?

20. What is a CWA, and where can you get it?

21. What are Metars, who issues them, and how often?

22. What are Pireps? Describe the strengths and weaknesses of using Pirep info

23. You are at KFDK in late January. Surface temperature is 4 Celsius Ceilings everywhere vary from 500 to 900 BRK to OVC. You are getting a briefing for a flight to KSBY at 5000. FSS tells you that a Bonanza reported light to moderate

ice over Armel at 4000 feet. A Lear Jet over BWI reported clear above 7000. What conclusion can you make?. What conclusion could you misleadingly draw from the Learjet Pirep? Why is the Lear Jet information misleading?

24. What is the difference between the following frequencies? (Hint, look on a VOR box on your map) What are their functions?
 - a. 122.0
 - b. 122.2
 - c. 122.1R
25. How do you establish contact with a Flight Service Station via a remote control outlet?
26. What are airmets?
27. What is the hazard corresponding to airmet:
 - a. Tango
 - b. Sierra
 - c. Zulu
28. What is a sigmet? When is it issued?

29. What is a convective sigmet? When is it issued?

30. Is any civilian airplane certified for flight into severe icing?

31. Define known icing.

32. The weather briefer tells you the freezing level is at 8000 feet. You are at KFME and want to go shoot approaches at KDMW and KFDK. Your maximum cruise altitude will be 3000. You may anticipate a hold at 4000. Ceilings everywhere are 500 to 900 feet and surface temperatures are 4 to 6 Celsius. What is the likely hood of getting rime icing on this flight? Why?

33. What will happen to your IAS as ice builds up on the aircraft?

34. Describe the procedure for approaching to land when carrying in flight icing? Why is there generally a danger of a tail stall if the flaps are lowered?

35. What are some avoidance strategies that you could use if you find your self inflight on an IFR flight plan with scattered to broken lower altitude clouds on a day where unexpected convective activity is developing and you do not have any detection equipment besides your eyes.

AEROMEDICAL

1. Define Hypoxia. Explain how a pilot can develop hypoxia, and what the effect is.
2. Define hyperventilation. Explain how it can develop, how it effects the pilot, and how a pilot can combat hyperventilation.
3. What is the danger of scuba diving and flying soon after?

PERFORMANCE

1. Define absolute altitude
2. Define true altitude
3. Define pressure altitude
4. What happens to your altimeter if you fly from
 - a. Higher pressure to lower pressure?
 - b. Lower pressure to higher pressure?
5. Describe how to choose a cruise altitude based on your magnetic course when IFR.

ORAL EXAMINATION QUESTIONS

1. Identify Airport Signage

2. Translate
 - a. AFD entry at local field
 - b. A different and Towered Airport

3. Decipher a
 - a. TAF
 - b. FA
 - c. Winds Aloft
 - d. Significant WX chart
 - e. Prognostic Chart
 - f. WX Depiction Chart
 - g. Pirep