Weather Information

1. What is a METAR?

2. Decode the following METAR:
   KMSP 241355Z VRB03KT 6SM SCT040 OVC180 22/20 A3007

3. What is a TAF?

4. Decode the following TAF:
   KMSP 241139Z 241212 15007KT 5SM BR SCT015 BKN040
   FM1600 16011KT 6SM HZ BKN040
   FM2300 14012G20KT P6SM BKN120
   FM0300 11010KT P6SM –SHRA OVC040
   FM0900 07008KT 4SM –RA OVC020

5. What is an FD?

6. Decode the following FD:

3000	6000	9000	12000
2124	2524+09	2630+02	2640-06

7. When referring to cloud formation, what does “stratus” mean?

8. When referring to cloud formation, what does “cumulus” mean?

9. When referring to cloud formation, what does “cirro / cirrus” mean?

10. When referring to cloud formation, what does “nimbo / nimbus” mean?

11. When referring to cloud formation, what does “lenticular” mean?

12. When referring to cloud formation, what does “rotor” mean?

13. What hazard is associated with rotor?

14. What types of clouds indicate the early stages of thunderstorms?

15. What is a squall line?

16. What cloud types are most closely associated with mountain wave?

17. When flying in mountain wave what should you do if you observe the gaps between successive lenticular clouds closing?

18. What types of clouds are associated with an approaching warm front?

19. What type of precipitation can be expected with an approaching warm front?

20. What types of clouds are associated with an approaching cold front?

21. What type of precipitation can be expected with an approaching cold front?

22. What is a stationary front?

23. What is a significant weather prog chart?

24. What information is shown on a radar summary chart?

25. What information is shown on a surface analysis chart?

26. What information is shown on a weather depiction chart?

27. What is a thermal index?

28. How are PIREPS filed?

29. What useful information do PIREPS contain?

30. What does UA mean in weather report coding?

31. What is a SIGMENT?

32. What is an AIRMENT?

33. What's the difference between a SIGMET and an AIRMET?

34. How are SIGMETs and AIRMETs disseminated?

35. What is a convective SIGMET?

36. What is a NOTAM?

37. What kind of information is available through NOTAMS?

38. What is a pressure lapse rate?

39. What is the approximate pressure lapse rate in the lowest portion of the atmosphere?

40. What is the barometric pressure at sea level for the ICAO Standard Atmosphere?

41. What is a temperature lapse rate?

42. What is the temperature lapse rate for the ICAO Standard Atmosphere?

43. What is the temperature at sea level for the ICAO Standard Atmosphere?

44. What is the dry adiabatic lapse rate useful for?

45. What is atmospheric instability?

46. What hazards are associated with flight in the vicinity of thunderstorms?

47. What is the thermal index and how is it calculated?

48. What indicates good soaring conditions, a positive or negative thermal index?

49. What energy source produces thermals?

50. Why do thermals rise?

51. What are thermal streets?

52. When referring to cloud formation, what does “alto” mean?

53. What is an occluded front?

54. What creates land and sea breezes?

55. What are valley breezes and mountain breezes?

56. What is another name for ridge lift?

57. What conditions must exist to produce ridge lift?

58. What hazards can be found on the downwind side of a ridge that is producing lift?

59. What is mountain wave?

60. What conditions must exist to produce mountain wave?

61. What is the name of atmospheric feature that can be found under the wave, close to the downwind side of the mountains?

62. Draw a diagram mountain wave. Include the wind direction, wave producing features, wave crests and rotor locations.