**PHYSICS OF THE ATMOSPHERE**

**SUB MOD 01**

Q1. At higher altitudes as altitude increases, pressure.

A. increases at constant rate.

**B. decreases exponentially.**

C. increases exponentially.

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Q2. The millibar is a unit of.

A. atmospheric temperature.

B. pressure altitude.

**C. barometric pressure.**

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Q3. Temp at sea level.

**A. 288 K**

B. 273 K

C. 173 k

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Q4. --------- does not depends on density

**A. Rocket**

B. Kite

C. NOTA

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Q5. What is Density

**A. Mass / Volume**

B. Mass / Pressure

C. Both

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Q6. Density of air at sea level

**A. 1.23kg/m3**

B. 1.23psi

C. 288k

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Q7. What is ISA

A. Civil Aviation Organisation

**B. International Standard Atmosphere.**

C. All

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Q8. Density Varies Direct proportion with

A. temperature

**B. Pressure.**

C. both a and b

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Q9. Density varies inversely with the

A. pressure

**B. temperature.**

C. All.

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Q10. What is Temp at sea level?

**A.15 degree C**

B. 15 degree F

C. NOTA

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Q11. What is atmospheric pressure at sea level?

A.1013.2mb

B.1023.2hpa

**C. Both A & B**

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Q12. -----------the amount of water vapour in the air.

A. density

B**. humidity**

C. pressure

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Q13. Force (F) Area (A) Pressure (P) then F=

**A. F = AP**

B. F = A/P.

C. both a & b

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Q14. Barometer indicates.

**A. pressure.**

B. density.

C. temperature.

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Q15. Which condition is the actual amount of water vapour in a mixture of air and water?

A. Relative humidity.

**B. Absolute humidity.**

C. Dew point.

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Q16. What is sea level pressure?

A. 1032.2 mb.

B. 1012.3 mb.

**C. 1013.2 mb.**

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Q17. The temperature lapse rate below the tropopause is.

A. 1°C per 1000 ft.

**B. 2°C per 1000 ft.**

C. 3°C per 1000 ft.

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Q18. Above the tropopause air pressure.

A. decreases at a constant rate.

**B. decreases exponentially.**

C. increases exponentially.

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Q19. What happens to the density of air as altitude is increased?

**A. Decreases.**

B. Stays the same.

C. Increases.

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Q20. Put in sequence from the ground up.

A. tropopause, stratosphere, troposphere.

B. tropopause, troposphere, stratosphere.

**C. troposphere, tropopause, stratosphere.**

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Q21. The ISA.

A. assumes a standard day.

B. is taken from the equator.

**C. is taken from 45 degrees latitude.**

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Q22. At higher altitudes as altitude increases, pressure.

A. decreases at constant rate.

**B. decreases exponentially.**

C. increases exponentially.

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Q23. When the pressure is half of that at sea level, what is the altitude?.

A. 12,000 ft.

B. 18,000 ft.

**C. 8,000 ft.**

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Q24. If gauge pressure on a standard day at sea level is 25 PSI, the absolute pressure is.

**A. 39.7 PSI.**

B. 10.3 PSI.

C. 43.8 PSI.

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Q25. Pressure decreases.

A. inversely proportional to temperature.

**B. proportionally with a decreases in temperature.**

C. Pressure and temperature are not related.

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Q26. As air gets colder, the service ceiling of an aircraft.

A. reduces.

**B. increases.**

C. remains the same.

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Q27. What is sea level pressure?.

A. 1012.3 mb.

**B. 1013.2 mb.**

C. 1032.2 mb.

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Q28. How does IAS at the point of stall vary with height?.

A. It decreases.

**B. It is practically constant.**

C. It increases.

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Q29. What is the lapse rate with regard to temperature?.

A. 4°C per 1000 ft.

**B. 1.98°C per 1000 ft.**

C. 1.98°F per 1000 ft.

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Q30. Standard sea level temperature is.

A. 20 degrees Celsius.

B. 0 degrees Celsius.

**C. 15 degrees Celsius.**

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Q31. As altitude increases, pressure.

**A. decreases exponentially.**

B. decreases at constant rate.

C. increases exponentially.

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Q32. Lapse rate usually refers to.

A. Density.

B. Pressure.

**C. Temperature.**

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Q33. Temperature above 36,000 feet will.

A. increase exponentially.

B. decrease exponentially.

**C. remain constant.**

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Q34. With increasing altitude pressure decreases and.

A. temperature decreases at the same rate as pressure reduces.

**B. temperature decreases but at a lower rate than pressure reduces.**

C. temperature remains constant to 8000 ft.

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Q35. What is the temperature in comparison to ISA conditions at 30,000ft?.

A. -60°C.

B. 0°C.

**C. -45°C.**

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Q36. At what altitude is the tropopause?.

**A. 36,000 ft.**

B. 57,000 ft.

C. 63,000 ft.

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Q37. What approximate percentage of oxygen is in the atmosphere?.

A. 12%.

**B. 21%.**

C. 78%.

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Q38. Which has the greater density?.

**A. Air at low altitude.**

B. Air at high altitude.

C. It remains constant.

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Q39. At what altitude does stratosphere commence approximately?.

A. Sea level.

**B. 36,000 ft.**

C. 63,000 ft.

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Q40. A pressure of one atmosphere is equal to.

**A. 14.7 psi.**

B. 1 inch Hg.

C. 100 millibar.

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Q41. The millibar is a unit of.

A. atmospheric temperature.

B. pressure altitude.

**C. barometric pressure.**

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Q42. With an increase in altitude under I.S.A. conditions the temperature in the troposphere.

A. remains constant.

**B. decreases.**

C. increases.

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Q43. A barometer indicates.

**A. pressure.**

B. density.

C. temperature.

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Q44. The amount of water vapour capacity in the air (humidity holding capacity of the air) is.

A. greater on a colder day, and lower on a hotter day.

B. doesn't have a significant difference.

**C. greater on a hotter day and lower on a colder day.**

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Q45. Which condition is the actual amount of water vapour in a mixture of air and water?.

A. Relative humidity.

**B. Absolute humidity.**

C. Dew point.

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Q46. Which will weigh the least?.

A. 98 parts of dry air and 2 parts of water vapour.

B. 50 parts of dry air and 50 parts of water vapour.

**C. 35 parts of dry air and 65 parts of water vapour.**

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Q47. Which is the ratio of the water vapour actually present in the atmosphere to the amount that would be present if the air were saturated at the prevailing temperature and pressure?.

A. Absolute humidity.

B. Dew point.

**C. Relative humidity.**

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Q48. The speed of sound in the atmosphere.

A. changes with a change in pressure.

B. varies according to the frequency of the sound.

**C. changes with a change in temperature.**

(EASA module 8 book sub module 0.1)

Q49. What is sea level pressure?.

A. 1032.2 mb.

B. 1012.3 mb.

**C. 1013.2 mb.**

(EASA module 8 book sub module 0.1)

Q50. Which statement concerning heat and/or temperature is true?.

**A. Temperature is a measure of the kinetic energy of the molecules of any substance.**

B. Temperature is a measure of the potential energy of the molecules of any substance.

C. There is an inverse relationship between temperature and heat.

(EASA module 8 book sub module 0.1)

Q51. What is absolute humidity?.

A. The temperature to which humid air must be cooled at constant pressure to become saturated.

B. The actual amount of the water vapour in a mixture of air and water.

**C. The ratio of the water vapour actually present in the atmosphere to the amount that would be** **present if the air were saturated at the prevailing temperature and pressure.**

(EASA module 8 book sub module 0.1)

Q52. The temperature to which humid air must be cooled at constantpressuretobecome saturated is called.

A. relative humidity.

B. dew point.

C. absolute humidity.

(EASA module 8 book sub module 0.1)

Q53. Density changes with altitude at a rate.

A. of 2kg/m3 per 1000 ft.

**B. which changes with altitude.**

C. which is constant until 11 km.

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Q54. Above 65,800 ft temperature.

A. decreases by 1.98°C up to 115,000 ft.

B. remains constant up to 115,000 ft.

**C. increases by 0.303°C up to 115,000 ft.**

(EASA module 8 book sub module 0.1)

Q55. At sea level, ISA atmospheric pressure is.

A. 14.7 kPa.

B. 10 Bar.

**C. 14.7 PSI.**

(EASA module 8 book sub module 0.1)

Q56. On a very hot day with ambient temperature higher than ISA, the pressure altitude is 20,000 ft. How much will the density altitude be?.

A. the same.

**B. greater than 20,000ft.**

C. less than 20,000ft.

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Q57. The atmospheric zone where the temperature remains fairly constant is called the.

**A. Stratosphere.**

B. Ionosphere.

C. Troposphere.

(EASA module 8 book sub module 0.1)

Q58. In the ISA the height of the tropopause is.

A. 11,000 feet.

**B. 11,000 metres.**

C. 36,000 metres.

(EASA module 8 book sub module 0.1)

Q59. In the ISA the sea level pressure is taken to be.

A. 14 PSI.

**B. 1013.2 mb.**

C. 1.013 mb.

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Q60. In the ISA the temperature lapse rate with altitude is taken to be : .

A. dependent on pressure and density changes.

**B. linear.**

C. non linear.

(EASA module 8 book sub module 0.1)