**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.

(EASA module 8 book sub module 0.1)

Q2. The millibar is a unit of.

A. atmospheric temperature.

B. pressure altitude.

**C. barometric pressure.**

(EASA module 8 book sub module 0.1)

Q3. Temp at sea level.

**A. 288 K**

B. 273 K

C. 173 k

(EASA module 8 book sub module 0.1)

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

**A. Rocket**

B. Kite

C. NOTA

(EASA module 8 book sub module 0.1)

Q5. What is Density

**A. Mass / Volume**

B. Mass / Pressure

C. Both

(EASA module 8 book sub module 0.1)

Q6. Density of air at sea level

**A. 1.23kg/m3**

B. 1.23psi

C. 288k

(EASA module 8 book sub module 0.1)

Q7. What is ISA

A. Civil Aviation Organisation

**B. International Standard Atmosphere.**

C. All

(EASA module 8 book sub module 0.1)

Q8. Density Varies Direct proportion with

A. temperature

**B. Pressure.**

C. both a and b

(EASA module 8 book sub module 0.1)

Q9. Density varies inversely with the

A. pressure

**B. temperature.**

C. All.

(EASA module 8 book sub module 0.1)

Q10. What is Temp at sea level?

**A.15 degree C**

B. 15 degree F

C. NOTA

(EASA module 8 book sub module 0.1)

Q11. What is atmospheric pressure at sea level?

A.1013.2mb

B.1023.2hpa

**C. Both A & B**

(EASA module 8 book sub module 0.1)

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

A. density

B**. humidity**

C. pressure

(EASA module 8 book sub module 0.1)

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

**A. F = AP**

B. F = A/P.

C. both a & b

(EASA module 8 book sub module 0.1)

Q14. Barometer indicates.

**A. pressure.**

B. density.

C. temperature.

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

Q16. 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)

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.

(EASA module 8 book sub module 0.1)

Q18. Above the tropopause air pressure.

A. decreases at a constant rate.

**B. decreases exponentially.**

C. increases exponentially.

(EASA module 8 book sub module 0.1)

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

**A. Decreases.**

B. Stays the same.

C. Increases.

(EASA module 8 book sub module 0.1)

Q20. Put in sequence from the ground up.

A. tropopause, stratosphere, troposphere.

B. tropopause, troposphere, stratosphere.

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

(EASA module 8 book sub module 0.1)

Q21. The ISA.

A. assumes a standard day.

B. is taken from the equator.

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

(EASA module 8 book sub module 0.1)

Q22. At higher altitudes as altitude increases, pressure.

A. decreases at constant rate.

**B. decreases exponentially.**

C. increases exponentially.

(EASA module 8 book sub module 0.1)

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.**

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

Q25. Pressure decreases.

A. inversely proportional to temperature.

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

C. Pressure and temperature are not related.

(EASA module 8 book sub module 0.1)

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

A. reduces.

**B. increases.**

C. remains the same.

(EASA module 8 book sub module 0.1)

Q27. What is sea level pressure?.

A. 1012.3 mb.

**B. 1013.2 mb.**

C. 1032.2 mb.

(EASA module 8 book sub module 0.1)

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

A. It decreases.

**B. It is practically constant.**

C. It increases.

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

Q30. Standard sea level temperature is.

A. 20 degrees Celsius.

B. 0 degrees Celsius.

**C. 15 degrees Celsius.**

(EASA module 8 book sub module 0.1)

Q31. As altitude increases, pressure.

**A. decreases exponentially.**

B. decreases at constant rate.

C. increases exponentially.

(EASA module 8 book sub module 0.1)

Q32. Lapse rate usually refers to.

A. Density.

B. Pressure.

**C. Temperature.**

(EASA module 8 book sub module 0.1)

Q33. Temperature above 36,000 feet will.

A. increase exponentially.

B. decrease exponentially.

**C. remain constant.**

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

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

A. -60°C.

B. 0°C.

**C. -45°C.**

(EASA module 8 book sub module 0.1)

Q36. At what altitude is the tropopause?.

**A. 36,000 ft.**

B. 57,000 ft.

C. 63,000 ft.

(EASA module 8 book sub module 0.1)

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

A. 12%.

**B. 21%.**

C. 78%.

(EASA module 8 book sub module 0.1)

Q38. Which has the greater density?.

**A. Air at low altitude.**

B. Air at high altitude.

C. It remains constant.

(EASA module 8 book sub module 0.1)

Q39. At what altitude does stratosphere commence approximately?.

A. Sea level.

**B. 36,000 ft.**

C. 63,000 ft.

(EASA module 8 book sub module 0.1)

Q40. A pressure of one atmosphere is equal to.

**A. 14.7 psi.**

B. 1 inch Hg.

C. 100 millibar.

(EASA module 8 book sub module 0.1)

Q41. The millibar is a unit of.

A. atmospheric temperature.

B. pressure altitude.

**C. barometric pressure.**

(EASA module 8 book sub module 0.1)

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

A. remains constant.

**B. decreases.**

C. increases.

(EASA module 8 book sub module 0.1)

Q43. A barometer indicates.

**A. pressure.**

B. density.

C. temperature.

(EASA module 8 book sub module 0.1)

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.**

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

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.**

(EASA module 8 book sub module 0.1)

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.**

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

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.

(EASA module 8 book sub module 0.1)

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)

Q61. The layer of atmosphere where temperature gradually falls **a. Troposphere** b. Stratosphere c. Tropopause

Ref:A C Kermode

62. The lapse rate in the stratosphere region a. 6.5 k/feet **b. 0 k/feet** c. 5 k/feet

Ref:A C Kermode

63. The amount of air in the atmosphere apply----------at the top surface a. Force b. Weight **c. Pressure**

Ref:A C Kermode

64. Which of the following flight operation is not depends on density?**a. Rocket** b. Parachute c. Kite

Ref:A C Kermode

65. Density of air at sea level a. 1.035 kg/m3**b. 1.225 kg/m3**c. 1.205 kg/m3

Ref:A C Kermode

66. Density is defined as a. Weight/volume

**b. Mass/volume** c. None of the above

Ref:A C Kermode

67. Temperature at sea level is**a. 288K**b. 273Kc. 173K

Ref:A C Kermode

68. The portion of atmosphere below which layer changes in temperature takes place**a. Troposphere**b. Stratospherec. tropopause

Ref:A C Kermode

69. Coefficient of viscosity is defined asa. Ratio of velocity to drag**b. Ratio of viscous stress to velocity gradient**c. Ratio of viscosity to the friction

Ref:A C Kermode

70. The temperature variation near earth surfacea. Smaller **b. Greater**c. No change

Ref:A C Kermode

71. Viscosity coefficient a. decreases with altitudeb. (a)+ constant in tropopause**c. (b)+ increases in stratosphere**d. (a)+ constant in stratosphereRef:A C Kermode

72. What are the flow properties considered in ISAa. Temperature, pressure**b. Temperature, Pressure, Density**c. Temperature, Density

Ref:A C Kermode

73. ISA sea level temperature is**a. 150C** b. 450C. c. 180C

Ref:A C Kermode

74. The property of air which makes all flight possiblea. Viscosityb. Pressure**c. Density**

Ref:A C Kermode

75. Below which layer temperature decrease rapidlya. Troposphere**b. Stratosphere**c. tropopause

Ref:A C Kermode

76. Mean sea level pressurea. 1013.3 mbb. 101.325 KN/m2**c. Both a and b**

Ref:A C Kermode

77. What is the purpose of making ISAa. For identification

**b. For making standardization for measurement**c. None of the above

Ref:A C Kermode

78. Aircraft performance’s vital component**a. Density**b. Pressure

c. Velocity

Ref:A C Kermode

79. As altitude increase thena. TAS decrease than IAS**b. TAS greater than IAS**c. Both are same

Ref:A C Kermode

80. IAS includes a. Pressure only b. Temperature and density **c. Pressure, temperature and density**

Ref:A C Kermode

81. The portion of the atmosphere below the height at which the change occurs **a. Troposphere**b. Stratospherec. Mesosphere

Ref:A C Kermode

82. Viscosity coefficient a. Varies with density b. Varies with friction **c. Varies with wind gradient**

Ref:A C Kermode

83. The rate at which the pressure decreases is much \_\_\_\_\_\_\_\_\_\_ near the earth’s surface than at altitude.a. Smaller**b. Greater**c. Constant

Ref:A C Kermode

84. For normal temperature a. Humid air is denser than dry air**b. Dry air is denser than humid air**c. Both are equal

Ref:A C Kermode

85. When some pressure is acted on any surface then what actually actinga. Pressure**b. Force**c. Inertia

Ref:A C Kermode

86. In atmosphere a mixture of gases nitrogen and oxygen in the proportion of approximately**a. Four - fifth nitrogen to one - fifth oxygen**b. One - fifth nitrogen to four - fifth oxygenc. Both are equal

Ref:A C Kermode

87. Due to viscosity and wind velocity gradually\_\_\_\_\_\_\_\_\_\_\_ from the ground upwardsa. Decreases **b. Increases**c. Constant

Ref:A C Kermode

88. Pressure measuring instrument**a. Barometer**b. Ammeterc. Hygrometer

Ref:A C Kermode

89. Dynamic pressure is the a. Pressure of the surrounding medium such as fluid or a gas which comes into contact with the object**b. Pressure as the result of the velocity through a fluid or gas**c. Pressure of the atmosphere at the altitude at which aircraft is flying

Ref:A C Kermode

90. The mass of a cubic meter of air at ground level is roughlya. 1.32 kgb. 1.67 kg**c. 1.225 kg**

Ref:A C Kermode

91. Lapse rate at 1000M isa. 1.98 degree Cb. -5.6 degree C**c. -6.5 degree C**

Ref:A C Kermode

92. Lapse rate at 1000ft is**a. 1.98 degree C**b. -5.6 degree Cc. -6.5 degree C

Ref:A C Kermode

93. According to ISA at sea level temperature ,pressure & Densitya. 2370C, 1.1013mbar, 1.225kg/m2b. 2370C, 101.3N/m2, 1.225kg/m2**c. 2370C, 1.013x105 N/m2 , 1.225kg/m3**Ref:A C Kermode

94. Fluid can be defined as a. Does not get affected by shear forceb. remain stable by the application of shear load**c. Will expand until it fills the container**

Ref:A C Kermode

95. In static fluid**a. Normal stress will act**b. Pressure is zeroc. Viscosity is nilRef:A C Kermode

96. The characteristics of dry air at constant temperature & pressure**a. Greater density than humid air**b. Less density than humid airc. Same as humid air

Ref:A C Kermode

97. Ideal fluid or In viscid flowa. Shear force will act**b. Viscosity is zero**c. It will deform under applied shear stress

Ref:A C Kermode

98. Fluid is a substancea. It cannot deform under an applied stress**b. It cannot resist any shear force applied to them**c. Viscosity will be the nil

Ref:A C Kermode

99. Pressure is a**a. Scalar quantity**b. Vector Quantityc. Both

Ref:A C Kermode

100. Temperature is a

**a. Scalar quantity**

b. Vector Quantity

c. Both

Ref:A C Kermode

**MODULE 08 BASIC AERODYNAMICS**

**(SUB MODULE 02 AERODYNAMICS )**

Q.101 The C of P is the point where.

A. the lift can be said to act.

B. the three axis of rotation meet.

**C. all the forces on an aircraft act.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level- 2

Q.102 At stall, the wingtip stagnation point.

A. doesn’t move.

**B. moves toward the lower surface of the wing.**

C. moves toward the upper surface of the wing.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level- 2

Q.103 Which of the following is true?.

**A. Lift acts at right angles to the relative airflow and weight acts vertically down.**

B. Lift acts at right angles to the wing chord line and weight acts vertically down.

C. Lift acts at right angles to the relative air flow and weight acts at right angles to the aircraft centre line.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.104 "What happens to air flowing at the speed of sound when it enters a converging duct?."

A. Velocity increases, pressure and density decreases.

B. Velocity, pressure and density increase.

**C. Velocity decreases, pressure and density increase.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.105 As the angle of attack of an airfoil increases the centre of pressure.

A. remains stationary.

B. moves aft.

**C. moves forward.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.106 The chord line of a wing is a line that runs from.

**A. the centre of the leading edge of the wing to the trailing edge.**

B. half way between the upper and lower surface of the wing.

C. one wing tip to the other wing tip.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.107 The centre of pressure of an aerofoil is located.

A. 30 - 40% of the chord line forward of the leading edge.

B. 50% of the chord line back from the leading edge.

**C. 30 - 40% of the chord line back from the leading edge.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.108 A high aspect ratio wing will give.

**A. high profile and low induced drag.**

B. low profile and high induced drag.

C. low profile and low induced drag.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.109 Aerofoil efficiency is defined by.

**A. lift over drag.**

B. lift over weight.

C. drag over lift.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.110 The relationship between induced drag and airspeed is, induced drag is.

A. directly proportional to the square of the speed.

B. directly proportional to speed.

**C. inversely proportional to the square of the speed.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.111 What is Boundary Layer?.

A. Separated layer of air forming a boundary at the leading edge.

**B. Sluggish low energy air that sticks to the wing surface and gradually gets faster until it joins the** **free stream flow of air.**

C. Turbulent air moving from the leading edge to trailing edge.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.112 The 'wing setting angle' is commonly known as.

A. angle of dihedral.

**B. angle of incidence.**

C. angle of attack.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.113 Which of the following types of drag increases as the aircraft gains altitude?.

A. Interference drag.

B. Parasite drag.

**C. Induced drag.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.114 The upper part of the wing in comparison to the lower.

A. develops less lift.

B. develops the same lift.

**C. develops more lift.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.115 An aspect ratio of 8 : 1 would mean.

**A. span 64, mean chord 8.**

B. mean chord 64, span 8.

C. span squared 64, chord 8.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.116 The amount of lift generated by a wing is.

A. greatest at the tip.

B. constant along the span.

**C. greatest at the root.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.117 If the weight of an aircraft is increased, the induced drag at a given speed.

**A. will increase.**

B. will decrease.

C. will remain the same.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.118 The amount of thrust produced by a jet engine or a propeller can be calculated using.

A. Newton’s 3rd law.

**B. Newton’s 2nd law.**

C. Newton’s 1st law.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.119 All the lift can be said to act through the.

**A. centre of pressure.**

B. centre of gravity.

C. normal axis.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q.120 The concept of thrust is explained by.

A. Bernoulli’s theorem.

**B. Newton’s 3rd law.**

C. Newton’s 1st law.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q121. The C of P is the point where.

**A. the lift can be said to act.**

B. the three axis of rotation meet.

C. all the forces on an aircraft act.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q122. When an aircraft experiences induced drag.

A. air flows under the wing span wise towards the root and on top of the wing span wise towards the tip.

B. Neither a) or b) since induced drag does not caused by span wise flow.

**C. air flows under the wing span wise towards the tip and on top of the wing span wise towards the root**.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q123. Which of the following is true?

**A. Lift acts at vertically right angles to the relative airflow and weight acts down**.

B. Lift acts at right angles to the wing chord line and weight acts vertically down.

C. Lift acts at right angles to the relative air flow and weight acts at right angles to the aircraft centre line.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q124. As the angle of attack of an airfoil increases the centre of pressure.

A. remains stationary.

B. moves aft.

**C**. **moves forward**.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q125. Vapour trails from the wingtips of an aircraft in flight are caused by.

**A. low pressure above the wing and high pressure below the wing causing vortices.**

B. low pressure above the wing and high pressure below the wing causing a temperature rise.

C. high pressure above the wing and low pressure below the wing causing vortices.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q126. The chord line of a wing is a line that runs from.

**A. the centre of the leading edge of the wing to the trailing edge.**

B. half way between the upper and lower surface of the wing.

C. One wing tip to the other wing tip.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q127. A high aspect ratio wing will give.

**A. high profile and low induced drag.**

B. low profile and high induced drag.

C. low profile and low induced drag.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q128. Aerofoil efficiency is defined by.

**A. lift over drag.**

B. lift over weight.

C. drag over lift.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q129. The relationship between induced drag and airspeed is, induced drag is.

A. directly proportional to the square of the speed.

B. directly proportional to speed.

**C. inversely proportional to the square of the speed.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q130. What is Boundary Layer?

A. Separated layer of air forming a boundary at the leading edge.

**B. Sluggish low energy air that sticks to the wing surface and gradually gets faster until it joins the free stream flow of air**.

C. Turbulent air moving from the leading edge to trailing edge.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q131. As air flows over the upper cambered surface of an aerofoil, what happens to velocity and pressure?

A. Velocity increases, pressure increases.

**B. Velocity increases, pressure decreases.**

C. Velocity decreases, pressure decreases.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q132. The 'wing setting angle' is commonly known as.

A. angle of dihedral.

**B. angle of incidence.**

C. angle of attack.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q133. As the angle of attack decreases, what happens to the centre of pressure?

**A**. **It moves rearwards**.

B. Centre of pressure is not affected by angle of attack decrease.

C. It moves forward.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q134. Which of the following types of drag increases as the aircraft gains altitude?

A. Interference drag.

B. Parasite drag.

**C. Induced drag.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q135. The upper part of the wing in comparison to the lower.

A. develops less lift.

B. develops the same lift.

**C**. **develops more lift**.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q136. 38. An aspect ratio of 8: 1 would mean.

**A. span 64, mean chord 8.**

B. mean chord 64, span 8.

C. span squared 64, chord 8.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q137. QFE is.

**A. airfield pressure.**

B. difference between sea level and airfield pressure.

C. sea level pressure.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q138. For any given speed, a decrease in aircraft weight, the induced drag will.

**A. decrease.**

B. remain the same.

C. increase.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q139. The amount of lift generated by a wing is.

A. Greatest at the tip.

B. Constant along the span.

**C. Greatest at the root.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q140. Induced Drag is.

**A. greatest towards the tip and downwash decreases from tip to root.**

B. greatest towards the wing tip and downwash is greatest towards the root.

C. greatest towards the wing root and downwash is greatest at the tip.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q141. As the angle of attack of a wing is increased in level flight.

A. the C of G moves aft and the C of P forward.

**B. the C of P and transition point move forward**.

C. the C of P moves forward and the stagnation point aft over the upper surface.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q142. The optimum angle of attack of an aerofoil is the angle at which.

A. the aerofoil produces maximum lift.

B. the aerofoil produces zero lift.

**C. the highest lift/drag ratio is produced**.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q143. 51. If the weight of an aircraft is increased, the induced drag at a given speed.

**A. will increase.**

B. will decrease.

C. will remain the same.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q144. The transition point on a wing is the point where.

**A. the boundary layer flow changes from laminar to turbulent.**

B. the flow divides to pass above and below the wing.

C. the flow separates from the wing surface.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q145. A laminar boundary layer will produce.

A. more skin friction drag than a turbulent one.

B. the same skin friction drag as a turbulent one.

**C. less skin friction drag than a turbulent one.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q146. The amount of thrust produced by a jet engine or a propeller can be calculated using.

A. Newton’s 3rd law.

**B. Newton’s 2nd law.**

C. Newton’s 1st law.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q147. The concept of thrust is explained by.

A. Bernoulli’s theorem.

**B. Newton’s 3rd law.**

C. Newton’s 1st law.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q148. What is the force that tends to pull an aircraft down towards the earth?

A. Thrust.

**B. Weight.**

C. Drag.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q149. The angle at which the chord line of the aerofoil is presented to the airflow is known as.

**A. angle of attack.**

B. resultant.

C. angle of incidence.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q150. The imaginary straight line which passes through an aerofoil section from leading edge to trailing edge is called.

**A. the chord line.**

B. the direction of relative airflow.

C. centre of pressure.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q151. What is the angle between the chord line of the wing, and the longitudinal axis of the aircraft, known as?

A. Angle of dihedral.

B. Angle of attack.

**C. Angle of incidence.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q152. Wing tip vortices create a type of drag known as.

A. form drag.

B. profile drag.

**C. induced drag.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q153. What type of drag, depends on the smoothness of the body, and surface area over which the air flows?

A. Form drag.

B. Parasite drag.

**C. Skin friction drag.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q154. When an aircraft stalls.

A. lift increases and drag decreases.

B. lift and drag increase.

**C. lift decreases and drag increases.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q155. Upward and outward inclination of a main plane is termed.

**A. dihedral.**

B. sweep.

C. stagger.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q156. The stagnation point on an aerofoil is the point where.

A. the boundary layer changes from laminar to turbulent.

B. the suction pressure reaches a maximum.

**C. the airflow is brought completely to rest.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q157. Aspect ratio is given by the formula.

A. Mean Chord / Span.

**B. Span2 / Area.**

C. Span2 / Mean Chord.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q158. The thickness/chord ratio of the wing is also known as.

**A. fineness ratio.**

B. mean chord ratio.

C. aspect ratio.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q159. The angle of attack of a wing is increased in flight, the.

A. C of P will move aft.

**B. C of P will move forward.**

C. C of G will move aft.

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

Q160. Helicopter rotor blades create lift by.

A. pushing the air down.

B. working like a screw.

**C. creating low pressure above the blades.**

Ref: (EASA MODULE 08 BOOK SUB MOD 02) Level-2

161. The drag which is inversely proportional to square of velocity a. Parasite drag **b. Induced drag** c. Infinite drag

Ref:A C Kermode

162. Aileron provide which control a. Longitudinal **b. Roll** c. Pitch

Ref:A C Kermode

163. If an aircraft having infinite aspect ratio then it will not be subjected to a. Wingtip vortices **b. Wingtip vortices and induced drag** c. Induced drag

Ref:A C Kermode

164. The aileron control is used to provide control around **a. Lateral control in longitudinal plane** b. Longitudinal control in lateral plane c. Both

Ref:A C Kermode

165. In streamline, the air a. The air is flow parallel to the main center line **b. Pressure drop is uniform** c. Velocity will be equal at each place

Ref:A C Kermode

166. At high speed the induced drag **a. Less than 10% of total drag** b. Less than 25% of total drag c. More than 25% of total drag

Ref:A C Kermode

167. If the aspect ratio ---------------, the induced drag will be halved **a. Doubled** b. Halved c. Not affected

Ref:A C Kermode

168. The point at which laminar flow is changed to turbulent is **a. Transition point/bubble point** b. Turbulent flow c. None of the above

Ref:A C Kermode

169. The increase of angle of incidence from root to tip **a. Wash in** b. Wash out c. Both

Ref:A C Kermode

170. The angle between chord line and relative air flow is a. Angle of incidence **b. Angle of attack** c. Longitudinal dihedral

Ref:A C Kermode

171. The straight line which goes from the leading edge of the wing to the trailing edge is called a. Camber line **b. Chord line** c. Angle of attack

Ref:A C Kermode

172. The layer of air over the surface of an airfoil which is slower moving in relation to the rest of the airflow is known as a. Camber b. Chord **c. Boundary layer**

Ref:A C Kermode

173. If aspect ratio is higher than induced drag is

**a. More than 40%** b. More than 75%c. Infinite

Ref:A C Kermode

174. If induced drag is reduced a. Span must be remains sameb. Span must be reduced **c. Aspect ratio must be higher**

Ref:A C Kermode

175. MTCS-higher Reynolds number**a. Supersonic – turbojet engine**b. Subsonic – aircraftsc. None of the above

Ref:A C Kermode

176. On a delta wing aircraft lift **a. Increases with increase in angle of attack**b. Decrease with increase in angle of attackc. None of the above

Ref:A C Kermode

177. Induced drag is a part of **a. Lift**b. Weightc. Thrust

Ref:A C Kermode

178. The drag is caused by the separation of the boundary layer **a. Form drag**b. Induced dragc. Interference drag

Ref:A C Kermode

179. NACA 0009 airfoil is having a. More camberb. Less camber**c. No camber**

Ref:A C Kermode

180. Factors of drag primarily depends ona. Speed of airflow over the wing and other parts**b. The interference between different parts of A/C and airflow**c. None of the above

Ref:A C Kermode

181. Density is defined asa. Weight / Volumeb. Volume / mass**c. Mass / Volume**

Ref:A C Kermode

182. With greater aspect ratio ------------ will be reduceda. Profile drag **b. Induced drag**c. Both a and b

Ref:A C Kermode

183. Induced drag is not taken into consideration in**a. High speed**b. Medium speedc. Low speed

Ref:A C Kermode

184. With greater aspect ratio ------------ will be reduceda. Profile drag **b. Induced drag**c. Both a and b

Ref:A C Kermode

185. When the AOA increases to the angle of maximum lift this is known asa. Stalling angleb. Critical angle**c. Both**

Ref:A C Kermode

186. Rudder provides**a. Directional stability**b. Lateral stabilityc. Longitudinal stability

Ref:A C Kermode

187. An Ideal airfoil hasa. High maximum lift coefficientb. Good lift/drag ratio**c. Both a and b**

Ref:A C Kermode

188. Efficiency of airfoil is**a. Lift over drag**b. Drag over liftc. Weight over thrust

Ref:A C Kermode

189. The point of intersection of the resultant force line of the airfoil is called the a. Chord lineb. Camber line

**c. Center of pressure**

**Ref:A C Kermode**

190. When flap will extenda. Stalling angle is increased**b. Stalling angle is decreased** c. Remains same

Ref:A C Kermode

191. Aileron gives --------- control**a. Roll**b. Yawc. Pitch

Ref:A C Kermode

192. If center of gravity of aircraft is forward of center of pressure than nose of aircraft will**a. Drop** b. Risec. It depends on distance between CP and CG

Ref:A C Kermode

193. The Newton’s law of mechanism that is applicable to aira. 1st law & 2nd lawb. 1st law & 2nd law**c. 1st law & 2nd law & 3rd law**

Ref:A C Kermode

194. The point on a wing surface where boundary layer startsa. Trailing edge**b. Leading edge**c. Transition point

Ref:A C Kermode

195. An airfoil stalls at a a. Certain Angle and certain speed**b. Certain Angle and not a certain speed**c. Not a certain Angle and certain speed

Ref:A C Kermode

196. Mark the correct statementa. Centre of pressure is the point on chord of wings from where drag force acts**b. Centre of pressure is the point on chord of wings from where lift force acts**c. Centre of pressure is the point on chord of wings from where weight force acts

Ref:A C Kermode

197. Which of the following is profile drag**a. Skin friction drag**b. Induced dragc. Wave drag

Ref:A C Kermode

198. The movement of center of pressure is independent froma. Liftb. Drag**c. Weight**

Ref:A C Kermode

199. An ideal airfoil hasa. High max CLb. Low minimum CD**c. Both (a) & (b)**

Ref:A C Kermode

200. Which control surface provide pith control**a. Elevator**b. Aileron

c. Flaps

Ref:A C Kermode

201. Induced drag is affected due to**a. Lift**b. Dragc. Climb

Ref:A C Kermode

202. As long as you have lift, you havea. Skin friction drag**b. Induced drag**c. Wave drag

Ref:A C Kermode

203. Law applicable for equilibrium flight is**a. Newton 1st law**b. Newton 2nd lawc.

c. Newton 3rd law

Ref:A C Kermode

204. Elevator control**a. Pitch**b. Directionalc. Roll

Ref:A C Kermode

205. As AOA increases**a. C of P moves forward** b. C of P moves rearwardsc. Remains constant

Ref:A C Kermode

206. Lift of an aircraft produced more due toa. increase in pressure on the upper surface **b. Increase in pressure on lower surface.**c. Decrease pressure on lower surface

Ref:A C Kermode

207. Characteristics of airfoil depends ona. Airflow

**b. Curvature**c. Angle

Ref:A C Kermode

208. High thickness of the airfoil at the leading edge, what happens to the stall characteristics?**a. poor**b. Goodc. Excellent

Ref:A C Kermode

209. Reynolds number **a. Is applicable to supersonic aircrafts**b. Is applicable to continuous flowc. Both a and b

Ref:A C Kermode

210. Movement of center of pressure is affected bya. Centre of gravity**b. Angle of attack**c. Centre of drag

Ref:A C Kermode

211. When slat is extended the max CL of the aerofoil may be increasing by as much as a. 20 %. b. 40 %. **c. 60 %**

Ref:A C Kermode

212. Angle of airfoil is slightly negative will it generate lifta. Do not generate lift**b. May be generate lift**c. None

Ref:A C Kermode

213. At constant AOA, if density increases then L/D ratioa. Increases b. Decreases **c. Remains constant**

Ref:A C Kermode

214. Wave drag is generally produced at a. Subsonic & Sonic Speed**b. Transonic & Supersonic Speed**c. Hypersonic Speed

Ref:A C Kermode

215. On a swept wing aircraft if both wing tip loses lift simultaneously the aircraft willa. Roll**b. Pitch nose up**c. Pitch nose down

Ref:A C Kermode

216. The increase in kinetic energy due to increase in velocity is accompanied by a corresponding decrease in**a. Static pressure**b. Dynamic Pressurec. Stagnation Pressure

Ref:A C Kermode

217. The geometric features of an airfoil section area. The camber of the center lineb. The position of maximum camberc. The radius of curvature of the leading edge**d. All the above**

Ref:A C Kermode

218. Krueger flap is a **a. Leading edge flap**b. Trailing edge flapc. Leading edge slat

Ref:A C Kermode

219. Stagnation pressure **a. Static + dynamic**b. Staticc. Dynamic

Ref:A C Kermode

220. The value of the dynamic pressure and hence the indicated speed at which this occurs will always be the \_\_\_\_\_\_\_ whatever the height.a. Increasesb. Decreases**c. Same**

Ref:A C Kermode

221. Smooth surface encourages **a. Laminar flow**b. Boundary layerc. Homogeneous layer

Ref:A C Kermode

222. Airfoil with maximum camber well forward at leading edge will have\_\_\_\_\_\_\_\_\_\_\_ stall characteristics.**a. Poor**b. Goodc. Excellent

Ref:A C Kermode

223. The streamline shapes which have given the least resistance at subsonic speeds have had a **a. fineness ratio**b. pressure ratioc. aspect ratio

Ref:A C Kermode

224. A laminar boundary layer over the boundary layer over the whole surface of a wing the skin friction would be reduced to about\_\_\_\_\_\_\_\_\_\_ of its value.**a. One - tenth**b. One - thirdc. One - fourth

Ref:A C Kermode

225. The turbulent layer has a much degree of shear at the surface and it is this which causes the skin fiction to be much\_\_\_\_\_\_\_\_\_\_\_that it is for the laminar boundary layer.a. Smaller**b. Higher**c. Same

Ref:A C Kermode

226. Drag coefficient of a body is dependent ona. The shape of the bodyb. The square of the velocityc. The density of the air**d. All the above**

Ref:A C Kermode

227. In subsonic speed the air is a. Compressible**b. Incompressible**c. None

Ref:A C Kermode

228. In supersonic speed the air is **a. Compressible**b. Incompressiblec. None

Ref:A C Kermode

229. The angle between the chord of the aerofoil and some fixed datum line in the aeroplanea. Angle of attack**b. Riggers angle of incidence**c. Longitudinal dihedral angle

Ref:A C Kermode

230. The upper surface by means of its decreased pressure which provides the **a. Four – fifth of lift**b. Three – fifth of liftc. Two – fifth of lift

Ref:A C Kermode

231. The component has hardly any effect on the position of the center of pressurea. Lift**b. Drag**c. Weight

Ref:A C Kermode

232. In flat plate an increase of the angle of attack over the same angles causes the center of pressure to movea. Forward**b. Backward**c. Remains same

Ref:A C Kermode

233. The pitching moment is positive when it tends to push the nose **a. Upwards** b. Downwardsc. Constant

Ref:A C Kermode

234. Relation between CL& AOA**a. Directly proportional**b. Inversely proportionalc. None

Ref:A C Kermode

235. L/D ratio increases very rapidly up to abouta. 00 **b. 30 or 40**c. 150

Ref:A C Kermode

236.The L/D ratio increases very rapidly up to 3 or 4 degree at which angles the lift is nearly a. 20 times the drag**b. 24 times the drag**c. 10 times the drag

Ref:A C Kermode

237.At subsonic speeds the aerodynamic center is usually abouta. One – fourth of the chord from LEb. Two – third of the chord from LE**c. One – Quarter of the chord from LE**

Ref:A C Kermode

238.NACA 4412 isa. Symmetrical airfoil**b. Unsymmetrical airfoil**c. None

Ref:A C Kermode

239.Aspect ratio for flight at subsonic speeds vary from **a. 6 to 1 up to about 10 to 1**b. 4 to 1 up to about 6 to 1c. 2 to 1 up to about 5 to 1

Ref:A C Kermode

240.While take off induced drag is a. 20 % of total dragb. 50 % of total drag**c. 70 % of total drag**

Ref:A C Kermode

241.When slat will extenda. Stalling angle is decreased **b. Stalling angle is increased**c. Remains same

Ref:A C Kermode

242. Lines which show the direction of the flow of the fluid at any particular moment are calleda. Line of zero lift**b. Streamlines**c. Chord line

Ref:A C Kermode

243. Speed of sound in gas**a. Directly proportional to temperature**b. Inversely proportional to temperaturec. No relation

Ref:A C Kermode

244. The camber convex of airfoil in upper surface isa. Smaller**b. Greater**c. Same

Ref:A C Kermode

245. As velocity increases transition point on wing will moves**a. Towards leading edge**b. Towards trailing edgec. No effect

Ref:A C Kermode

246. The purpose of slat a. To increase drag**b. To re-energize boundary layer**c. To decrease stalling angle

Ref:A C Kermode

247. Fixed slat at high speed will givea. Less drag**b. More drag**

c. No change

Ref:A C Kermode

248. Camber & split flap will givea. Increases in Max CLb. Increases in Drag**c. Both**

Ref:A C Kermode

249. Blown & jet flaps may be a serious disadvantage in the event of a. Divingb. Climbing**c. Power failure**

Ref:A C Kermode

250. Reynolds number is the ratio of **a. Inertia force to viscous force**b. Elastic to viscous forcec. Elastic to inertia force

Ref:A C Kermode

251. If Reynolds number is increasing the flow will bea. Laminar**b. Turbulent**c. Transition

Ref:A C Kermode

252. If density is increasing the Reynolds number will be**a. Increasing**b. Decreasing c. Remains same

Ref:A C Kermode

253. If viscosity is increasing the Reynolds number will bea. Increasing**b. Decreasing** c. Remains same

Ref:A C Kermode

254. Airfoil with max camber well forward say at 15% to 20% of the chord may have**a. Low drag**b. High dragc. No drag

Ref:A C Kermode

255. There must be some point on the chord about which there is no change

in pitching moment is calleda. Line of zero lift**b. Aerodynamic center**c. Stagnation point

Ref:A C Kermode

256. The concept of thrust is explained bya. Newton’s 1st law b. Newton’s2nd law**c. Newton’s 3rd law**

Ref:A C Kermode

**THEORY OF FLIGHT**

**SUB MODULE 03**

Q257. Flaps at landing position.

**A. decrease landing speed.**

B. decrease take off and landing speeds.

C. decrease take off speed.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q258. As a subsonic aircraft speeds-up, its Centre of Pressure.

A. moves aft.

**B. moves forward.**

C. is unaffected.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q259. Lowering of the flaps.

A. increases drag.

B. increases lift.

**C. increases drag and lift.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q260. Wing spoilers, when used asymmetrically, are associated with.

A. rudder.

B. elevators.

**C. ailerons.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q261. What do ruddervators do?.

A. Control yaw and roll.

B. Control pitch and yaw.

**C. Control pitch and roll.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q262. What controls pitch and roll on a delta wing aircraft?.

A. Ailerons.

**B. Elevons.**

C. Elevators.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q263. What does a trim tab do?.

A. Allows the C of G to be outside the normal limit.

B. Provides finer control movements by the pilot.

**C. Eases control loading for pilot.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q264. How does a balance tab move?.

A. In the same direction a small amount.

**B. In the opposite direction proportional to the control surface it is attached to.**

C. In the same direction proportional to the control surface it is attached to.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q265. If an aircraft is yawing to the left, where would you position the trim tab on the rudder?.

A. To the centre.

**B. To the left**.

C. To the right.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q266. If an aircraft is flying with a left wing low, where would you move the left aileron trim tab?.

A. Down.

**B. Up**.

C. Moving the aileron trim tab will not correct the situation.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q267. When a leading edge flap is fully extended, what is the slot in the wing for?.

**A. To re-energise the boundary layer.**

B. To increase the lift.

C. To allow the flap to retract into it when it retracts.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q268. With respect to differential aileron control, which of the following is true?.

A. The up going and down going ailerons both deflect to the same angle.

B. The up going Aileron moves through a smaller angle than the down going aileron.

**C. The down going aileron moves through a smaller angle than the up going aileron.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q269. The aeroplane fin is of symmetrical aerofoil section and will therefore provide a side-load.

A. only when the rudder is moved.

**B. if a suitable angle of attack develops due either yaw or rudder movement.**

C. only if a suitable angle of attack develops due to yaw.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q270. An aircraft left wing is flying low. The aileron trimmer control to the left aileron trim tab in the cockpit would be.

A. moved up causing the left aileron to move up.

**B. moved up causing the left aileron to move down.**

C. moved down causing the left aileron to move down.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q271. An elevator tab moves down.

A. to make the nose go down.

**B. to counteract for the aircraft flying nose heavy.**

C. to counteract for the aircraft flying tail heavy.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q272. The stall margin is controlled by.

A. speed bug cursor.

B. EPR limits.

**C. angle of attack and flap position.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q273. Other than spoilers, where are speed brakes located?.

A. Under the Fuselage.

**B. Either side of the Fuselage.**

C. On the wing.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q274. With a trailinedge flap being lowered, due to rising gusts, what will happen to the angle of attack?.

A. Tend to decrease.

B. Stay the same.

**C. Tend to increase.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q275. A device used do dump lift from an aircraft is.

A. leading edge flaps.

B. trailing edge flaps.

**C. spoiler.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q276. The purpose of a slot in a wing is to.

A. provide housing for the slat.

B. speed up the airflow and increase lift.

**C. act as venturi, accelerate the air and re-energise boundary layer.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q278. Large flap deployment.

A. causes increased span wise flow towards tips on wing upper surface.

**B. causes increased span wise flow towards tips on wing lower surface.**

C. has no effect on span wise flow.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q279. Which part of the wing of a swept-wing aircraft stalls first?.

**A. Tip stalls first.**

B. Both stall together.

C. Root stalls first.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q280. During flight, an aircraft is yawing to the right. The aircraft would have a tendency to fly.

**A. right wing low.**

B. left wing low.

C. nose up.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q281. In the reversed camber horizontal stabilizer.

A. there is an increased tail plane up-force.

B. the elevator causes tail down movement i.e. increased tail plane down force.

**C. there is an increased tailplane down-force.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q282. When the trailing edge flap is extended.

**A. CP moves rearward.**

B. the CP moves forward but the CG does not change.

C. the CP moves forward and the pitching moment changes to nose up.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q283. With a drop in ambient temperature, an aircraft service ceiling will.

**A. rise.**

B. not be affected.

C. lower.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q284. What type of flap is this?.

**A. Split flap.**

B. Plain flap.

C. Fowler flap.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q285. Servo tabs.

A. enable the pilot to bring the control surface back to neutral.

**B. move in such a way as to help move the control surface.**

C. provide artificial feel.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q286. Spring Tabs.

A. provide artificial feel.

B. enable the pilot to bring the control surface back to neutral.

**C. move in such a way as to help move the control surface.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q287. Extending a leading edge slat will have what effect on the angle of attack of a wing?.

A. Increase the angle of attack.

**B. Decrease the angle of attack.**

C. No effect on angle of attack.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q288. To ensure that a wing stalls at the root first, stall wedges are.

**A. installed on the wing leading edge at the wing root.**

B. installed on the wing leading edge at the wing tip.

C. installed at the wing trailing edge at the wing root.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q289. Krueger flaps make up part of the.

**A. wing lower surface leading edge.**

B. wing lower surface trailing edge.

C. wing upper surface leading edge.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q290. In a turn, wing spoilers may be deployed.

**A. to assist the up going aileron.**

B. in unison with both the up going and down going ailerons.

C. to act as an airbrake, interacting with the ailerons.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q291. Dutch role is movement in.

A. yaw and pitch.

**B. yaw and roll.**

C. pitch and roll.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q292. What is the main purpose of a frize aileron?.

A. Increase drag on the up going wing.

**B. Decrease drag on the up going wing.**

C. Help pilot overcome aerodynamic loads.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q293. Flap asymmetry causes the aircraft to.

A. nose down.

**B. go one wing down.**

C. nose up.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q294. If an aircraft moves in yaw, what axis is it moving about?.

A. Longitudinal.

B. Lateral.

**C. Normal.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q295. If an aircraft is aerodynamically stable.

**A. aircraft returns to trimmed attitude.**

B. CofP moves back.

C. aircraft becomes too sensitive.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q296. What are ground spoilers used for?.

A. To assist the aircraft coming to a stop.

B. To slow the aircraft.

**C. To dump lift.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q297. Mass balance weights are used to.

A. balance the trailing edge of flying control surfaces.

**B. counteract flutter on control surfaces.**

C. balance the tabs.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q298. What is a slot used for?.

A. Increased angle of attack during approach.

B. Increase the speed of the airflow.

**C. To reinforce the boundary layer.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q299. Angle of Attack is the angle between cord line and.

A. horizontal axis.

**B. relative air flow.**

C. tip path plane.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q300. A high lift device is used for.

A. take-off only.

**B. take-off and landing.**

C. landing only.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q301. How is a spoiler interconnected to other flight control systems?.

A. Spoiler to elevator.

**B. Spoiler to aileron.**

C. Spoiler to flap.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q302. What is aileron droop?.

**A. The droop of ailerons with no hydraulics on.**

B. The leading edge of both ailerons presented to the airflow.

C. One aileron lowered.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q303. Earths atmosphere is.

A. 3/5 oxygen, 2/5 nitrogen.

B. 4/5 oxygen, 1/5 nitrogen.

**C. 1/5 oxygen, 4/5 nitrogen.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q47. An anti-balance tab is used.

A. to relieve stick loads.

B. for trimming the aircraft.

**C. to give more feel to the controls.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q48. The fin helps to give.

**A. directional stability about the normal axis.**

B. directional stability about the longitudinal axis.

C. longitudinal stability about the normal axis.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q49. If an aircraft moves in roll, it is moving about the.

**A. longitudinal axis.**

B. normal axis.

C. lateral axis.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q50. What effect does lowering the flaps for take-off have?.

A. Increases lift & reduces drag.

**B. Increases lift and drag.**

C. Increase lift only.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q51. What effect does lowering flaps for takeoff have?.

**A. Reduces takeoff speeds only.**

B. Reduces landing speeds only.

C. Reduces takeoff and landing speeds.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q52. When the flaps are lowered.

**A. the lift vector moves rearward.**

B. there is no effect on the lift vector.

C. the lift vector moves forward.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q53. At take-off, if the flaps are lowered there is a.

**A. large increase in lift and drag.**

B. large increase in lift and small increase in drag.

C. small increase in lift and drag.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q54. Wing spoilers be used.

A. to assist the respective down going aileron in a turn.

**B. as ground spoilers on landing.**

C. to assist the elevators.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q55. Differential aileron control will.

A. cause a nose down moment.

**B. prevent yawing in conjunction with rudder input.**

C. cause a nose up moment.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q56. Dutch Roll affects.

A. pitch and yaw simultaneously.

**B. yaw and roll simultaneously.**

C. pitch and roll simultaneously.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q57. Which of the following are primary control surfaces?.

**A. Elevators, ailerons, rudder.**

B. Roll spoilers, elevators, tabs.

C. Elevators, roll spoilers, tabs.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q58. A split flap.

A. forms part of the trailing edge's lower surface when retracted.

**B. forms part of the leading edge's lower surface when retracted.**

C. forms part of the trailing edge's upper surface when retracted.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q59. An anti-servo tab.

**A. assists the pilot to move the controls back to neutral.**

B. moves in the opposite direction to the control surface to assist the pilot.

C. moves in the same direction as the control surface to assist the pilot.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q60. Slats.

**A. keep the boundary layer from separating for longer.**

B. increase the overall surface area and lift effect of wing.

C. act as an air brake.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q61. Due to the change of lift forces resulting from the extension of flaps in flight.

**A. nose should be lowered, reducing AOA.**

B. nose should be raised, increasing AOA.

C. nose should remain in the same position, maintaining same AOA.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q62. Flight spoilers.

A. can be deployed on the down going wing in a turn to increase lift on that wing.

**B. can be used to decrease lift to allow controlled decent without reduction of airspeed.**

C. can be used with differential ailerons to reduce adverse yaw in a turn.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q63. If the aircraft is flying nose heavy, which direction would you move the elevator trim tab?.

A. Up to move elevator down.

B. Up to move elevator up.

**C. Down to move elevator up.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q64. Wing tip vortices are strongest when.

A. flying high speed straight and level flight.

B. flying into a headwind.

**C. flying slowly at high angles of attack.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q65. Aerodynamic balance.

**A. will reduce aerodynamic loading.**

B. will cause CP to move forward of hinge and cause overbalance.

C. will cause CP to move towards the trailing edge and cause instability.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q66. A balance tab.

A. effectively increases the area of the control surface.

**B. assists the pilot to move the controls.**

C. is used to trim the appropriate axis of the aircraft.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q67. Elevons combine the functions of both.

A. rudder and elevator.

**B. elevator and aileron.**

C. rudder and aileron.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q68. Flutter can be reduced by using.

A. a horn balance.

**B. mass balancing**.

C. servo tabs.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q69. An elevator provides control about the.

A. longitudinal axis.

**B. lateral axis.**

C. horizontal stabilizer.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q70. The outboard ailerons on some large aircraft.

**A. are isolated at high speeds.**

B. are isolated to improve sensitivity.

C. are isolated at low speeds.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q71. Which wing increases drag when the ailerons are moved?.

A. Both wings increase drag but the wing with the up-going aileron increases more.

B. Both wings have an equal increase in drag.

**C. Both wings increase drag but the wing with the down-going aileron increases more.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q72. Which flap will increase wing area and camber?.

A. Slot.

B. Split.

**C. Fowler.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q73. Wing loading of an aircraft.

A. varies with dynamic loading due to air currents.

**B. is independent of altitude.**

C. decreases with density.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q74. An automatic slat will lift by itself when the angle of attack is.

**A. high.**

B. high or low.

C. low.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q75. On aircraft fitted with spoilers for lateral control, roll to the right is caused by.

A. left spoilers extending, right spoilers remaining retracted.

**B. right spoilers extending, left spoilers remaining retracted.**

C. left and right spoilers extending.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q76. A split flap increases lift by increasing.

**A. the angle of attachment of the lower hinged portion.**

B. the surface area.

C. the camber of the top surface.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q77. When the trailing edge flaps are lowered, the aircraft will.

A. pitch nose up.

**B. pitch nose down.**

C. sink.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q78. In aileron control.

**A. the up going aileron moves further than down going aileron.**

B. the down going aileron moves further than up going aileron.

C. it is assisted by the rudder.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q79. The aircraft is controlled about the lateral axis by the.

A. ailerons.

**B. elevator.**

C. rudder.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q80. The aircraft is controlled about the normal axis by the.

A. ailerons.

B. elevator.

**C. rudder.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q81. Dutch roll is.

**A. a combined yawing and rolling motion.**

B. primarily a pitching instability.

C. a type of slow roll.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q82. The aircraft is controlled about the longitudinal axis by the.

**A. ailerons.**

B. elevator.

C. rudder.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q83. Ruddervators when moved, will move.

A. opposite to each other only.

B. together only.

**C. either opposite each other or together, depending on the selection.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q84. As a consequence of the C of G being close to its aft limit.

A. the stick forces will be high in fore and aft pitch, due to the high longitudinal stability.

B. the stick forces to manoeuvre longitudinally will be low due to the low stability.

**C. the stick forces when pitching the nose down will be very high.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q85. What is the term used for the amount of water in the atmosphere?.

A. Relative humidity.

**B. Absolute humidity.**

C. Dew point.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q86. An anti-balance tab is moved.

**A. via a fixed linkage.**

B. hydraulically.

C. when the C.G. changes.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q87. A servo tab is operated.

**Option A. directly by the pilot to produce forces which in turn move the main control surfaces.**

B. automatically, and moves in the same direction as the main control surfaces.

C. by a trim wheel and moves in the opposite direction to the main control surfaces when moved.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q88. On an aircraft with an all-moving tailplane, pitch up is caused by.

**A. decreasing tailplane incidence.**

B. up movement of the elevator trim tab

C. increasing tailplane incidence.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q89. When checking full range of control surface movement, they must be positioned by.

A. moving them by hand directly until against the primary stops.

B. moving them by hand directly until against the secondary stops.

**C. operating the control cabin controls until the system is against the primary stops.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q90. An excess of aerodynamic balance would move the control surface centre of pressure.

A. rearwards, resulting in too much assistance.

B. rearwards, resulting in loss of assistance.

**C. forwards, resulting in an unstable overbalance.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q91. A flying control mass balance weight.

A. keeps the control surface C of G as close to the trailing edge as possible.

**B. tends to move the control surface C of G close to the hinge line.**

C. ensures that the C of G always acts to aid the pilot thus relieving control column load.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q92. The type of flap which extends rearwards when lowered is called a.

A. plain flap.

B. split flap.

**C. Fowler flap.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q93. Which of the following trailing edge flaps give an increase in wing area?.

A. Split flap.

**B. Fowler flap.**

C. Slotted flap.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q94. Which of the following is not a primary flying control?.

A. Elevator.

**B. Tailplane.**

C. Rudder.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q95. A leading edge slat is a device for.

**A. increasing the stalling angle of the wing.**

B. decreasing the stalling angle of the wing.

C. decreasing wing drag.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q96. A Krueger flap is.

A. a flap which extends rearwards but does not lower.

**B. a leading edge flap which hinges forward.**

C. a leading edge slat which extends forward.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q97. A tab which assists the pilot to move a flying control by moving automatically in the opposite direction to the control surface is called a.

A. servo tab.

**B. geared balance tab.**

C. trim tab.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q98. What is attached to the rear of the vertical stabilizer?.

A. Elevator.

B. Aileron.

**C. Rudder.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q99. What is fitted on the aircraft to enable the pilot to reduce his speed rapidly in event of severe turbulence,

or speed tending to rise above the Never Exceed Limit?.

A. Lift dumpers.

**B. Air brakes.**

C. Wheel brakes.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q100. When spoilers are used asymmetrically, they combine with.

**A. ailerons.**

B. rudder.

C. elevators.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q101. "What is used to correct any tendency of the aircraft to move towards an undesirable flight attitude?."

**A. Trim tabs.**

B. Spring tabs.

C. Balance tabs.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q102. The layer of air over the surface of an aerofoil which is slower moving, in relation to the rest of the airflow, is known as.

A. none of the above are correct.

B. camber layer.

**C. boundary layer**.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q103. A control surface which forms a slot when deployed is called a.

**A. slat.**

B. slot.

C. flap.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q104. Asymmetric flaps will cause.

A. the aircraft to descend.

B. the aircraft to ascend.

**C. one wing to rise.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q105. When airflow velocity over an upper cambered surface of an

aerofoil decreases, what takes place?.

A. Pressure decreases, lift increases.

**B. Pressure increases, lift decreases.**

C. Pressure increases, lift increases.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q106. What is a controlling factor of turbulence and skin friction?.

**A. Countersunk rivets used on skin exterior.**

B. Aspect ratio.

C. Fineness ratio.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q107. Changes in aircraft weight.

**A. cause corresponding changes in total drag due to the associated lift change.**

B. will not affect total drag since it is dependant only upon speed.

C. will only affect total drag if the lift is kept constant.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q108. When an aircraft stalls.

**A. lift increases and drag decreases.**

B. lift and drag increase.

C. lift decreases and drag increases.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q109. Spoiler panels are positioned so that when deployed.

A. roll will not occur.

**B. pitch trim is not affected.**

C. no yaw takes place.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q110. The aircraft stalling speed will.

A. only change if the MTWA were changed.

B. be unaffected by aircraft weight changes since it is dependant upon the angle of attack.

**C. increase with an increase in weight.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q111. In a bank and turn.

A. extra lift is not required if thrust is increased.

B. extra lift is not required.

**C. extra lift is required.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q112. The method employed to mass balance control surfaces is to.

A. fit bias strips to the trailing edge of the surfaces.

**B. attach weights forward of the hinge line.**

C. allow the leading edge of the surface to project into the airflow.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q113. Control surface flutter may be caused by.

**A. excessive play in trim tab attachments.**

B. high static friction in trim tab control tabs.

C. incorrect angular movement of trim tabs.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q114. A differential aileron control system results in.

A. aileron drag being reduced on the inner wing in a turn.

**B. aileron drag being reduced on the outer wing in a turn.**

C. aileron drag being compensated by small rudder movements.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q115. The primary function of a flap is.

A. to trim the aircraft longitudinally.

B. to alter the position of the centre of gravity.

**C. to alter the lift of an aerofoil.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q116. The angle of attack at which stall occurs.

**A. can be varied by using flaps and slats.**

B. depends on the weight of the aircraft.

C. cannot be varied, it is always constant.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q117. The stalling speed of an aircraft.

**A. is increased when it is heavier.**

B. does not change.

C. is increased when it is lighter.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q118. A wing flap which has dropped or partially extended on one wing in flight will lead to.

A. a fixed banked attitude which would be corrected by use of the rudder.

B. a pitching moment which would be corrected by used of the elevators.

**C. a steady rolling tendency which would be corrected by use of the ailerons.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q119. With an increase in the amount of flap deployment, the stalling angle of a wing.

A. remains the same.

B. increases.

**C. decreases.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q120. Aerodynamic balance of a control surface may be achieved.

**A. by a horn at the extremity of the surface forward of the hinge line.**

B. by weights added to the control surface aft of the hinge line.

C. by a trimming strip at the trailing edge of the surface.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q121. A control surface is provided with aerodynamic balancing to.

**A. assist the pilot in moving the control.**

B. increase stability.

C. decrease the drag when the control is deflected.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q122. Downward displacement of an aileron.

A. increases the angle at which its wing stalls.

**B. decreases the angle at which its wing will stall.**

C. has no effect on its wing stalling angle, it only affects the stalling speed on that wing.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q123. Due to the tailplane angle of attack change, the flap-induced downwash on the tailplane.

**A. will tend to cause an aircraft nose-up pitch.**

B. may cause a nose-down or nose-up pitch depending upon the initial tailplane load

C. will tend to cause an aircraft nose down pitch.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q124. Due to the change in lift coefficient accompanying extension

of the flaps, to maintain the lift constant it would be necessary to.

A. raise the nose.

**B. lower the nose.**

C. keep the pitch attitude constant.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q125. The extension to the rudder (shaded portion shown on the diagram), is provided to.

A. make the pilot aware of the aerodynamic forces encountered when moving the control.

**B. provide aerodynamic assistance for the pilot when moving the rudder.**

C. prevent control surface flutter.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q126. A differential aileron control is one which gives.

A. the down-going aileron more travel than the up-going one.

B. equal aileron travel in each direction, but variable for stick movement.

**C. a larger aileron up travel than down.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q127. Which leading edge device improves the laminar flow over the wing?.

A. Flap and slat.

**B. Slat.**

C. Flap.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q128. The balance tab is an auxiliary surface fitted to a main control surface.

**A. operating automatically to assist the pilot in moving the controls.**

B. operated independently at which point in the length of cable the tensiometer is applied.

C. operating automatically to provide feel to the controls.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q129. Aerodynamic balancing of flight controls is achieved by.

A. placing a weight ahead of the hinge point.

B. placing a weight in the leading edge of the control surface.

**C. providing a portion of the control surface ahead of the hinge point.**

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

Q130. Aerodynamic balance is used to.

A. reduce the control load to zero.

**B. make the flying controls easier to move.**

C. prevent flutter of the flying controls.

(REF: EASA MODULE 08 BOOK SUB MODULE 03)

1. Landing speed is\_\_\_\_\_\_\_\_ when flap & slat is opena. Increasing**b. Decreasing**c. No change

(Ref-ACK 190)

2. When banking on a turn stalling speed is \_\_\_\_\_\_\_\_\_ then when landing

(Ref-ACK 190)a. lower**b. higher**c. Same

3. The increase in lift tends to \_\_\_\_\_\_\_ the glide angle

(Ref-ACK 209)**a. Flatten**b. Steepenc. Remains same

4. The steeper the original glide the greater the change in flight path involved and so the more speed must be there in hand for\_\_\_\_\_

(Ref-ACK 209)a. Divingb. Landing**c. Flattening out**

5. After Flattening out we must lose any excess speed this may called\_\_\_\_\_\_\_

(Ref-ACK 209)a. Float

b. Hold-off**c. Both**

6. The gliding path is flatter so there is \_\_\_\_\_\_\_\_ change of path in flattening out and so(Ref-ACK 211)**a. Less**b. Morec. Same

7. In straight and level flight when cruising power required curve and power available curve are perpendicular is a. Safety range **b. Endurance range** c. Both (Ref-ACK 190)

8. During turn the outer wing offers more

(Ref-ACK 224)a. Drag**b. Lift**c. Bank

9. When engine failure occurs and lift is forward of the weight then**a. Aircraft tends to stall**b. It gives position of glidingc. Slightly reduces straight and level flight10. Higher weight in gliding flight is not affected not by(Ref-ACK 185)**a. Stalling angle and range are reduced**b. Stalling angle and speed are reducedc. Speed and range are reduced11. During flat turn(Ref-ACK 245)a. Roll only**b. Yaw only**c. Combination of roll & yaw12. In the case of aircraft nose drop thrust line is placed----------and drag line is---------(Ref-ACK 149)**a. High ; low**b. High ; highc. Low ; high13. During turn stalling angle a. Increases b. Decreases**c. Remains same** 14. During take-off before pulling off(Ref-ACK 215)a. AOA is less than stalling angle**b. To allow speed to increase beyond the stalling speed**c. AOA is more than 25015. Speed of sound at mean sea levela. 320m/s**b. 340m/s**c. 300m/s16. Performance capability of jet engine with propeller is depends on(Ref-ACK 130)**a. Power**b. Thrustc. Both17. Performance capability of jet engine is depends on (Ref-ACK 130)**a. Thrust**b. powerc. Both18. If landing speeds go up with\_\_\_\_\_\_\_\_\_ Wing loading(Ref-ACK 216)a. Low**b. High**c. Same 19. A slight increase in the \_\_\_\_\_\_\_\_\_ to use for climbing(Ref-ACK 226)a. AOA**b. Best speed**c. Trim20. For equilibrium level flight (Ref-ACK 148)a. L = Wb. T = D**c. Both a and b**21. The airspeed during a spin is comparatively low and the rate of descent is also(Ref-ACK 248)**a. Low**b. Highc. Same22. Propeller convert------------- into -----------(Ref-ACK 131)a. Thrust, torque**b. Torque, thrust**c. Thrust, power23. In straight and level flight we must prevent aircraft from(Ref-ACK 149)a. Climbing**b. Rotating**c. Diving24. Rate of climb with respect to altitude(Ref-ACK 224)a. ROC increases with increase in altitude**b. ROC decreases with increase in altitude**c. None of the above25. What changes an even and straight flight?(Ref-ACK 149)**a. Rotation** b. Divingc. Climbing26. During gliding turn the aircraft rolls(Ref-ACK 224)**a. Inward**b. Outwardc. None of the above27. Climb performance is related to**a. Performance curve** b. Lift curvec. Drag curve28. Except in special cases it is unadvisable toa. Trim**b. Flat out**c. Dive

29. During climbing turn the aircraft will roll(Ref-ACK 244)a. Inwards **b. Outwards** c. None of the above30. If we increase or decrease the best gliding speed, the flight path will(Ref-ACK 182)a. Flatter**b. Steeper**c. 20 to3031.The speed of sound is roughly \_\_\_\_\_\_\_\_\_ times the speed of sound in air (Ref-ACK 487)a. Two

b. Three

**c. Four**32. Distance travelled by aircraft per unit fuel is**a. Air specific range**b. Specific fuel consumption

c. None33. The weight of an aircraft is acting at which point **a. C of G**b. C of P c. Aerodynamic center34. During climb which of the following curve should be consider?(Ref-ACK 218)a. V-N curve **b. Performance curve** c. Only a 35. In steeper turn rudder position is taken by (Ref-ACK 245)**a. Elevator**

b. Rudderc. Aileron 36. If CP of an aircraft is behind CG, what happened to the nose?**a. Drops** b. Pitch upc. Remains same 37. During climbing a. Lift is greater than weight (Ref-ACK 229 & 485)**b. Lift is less than weight** c. Lift is equal to weight 38. The flight Mach no at which local supersonic flow first appears somewhere on the aircraft is (Ref-ACK 488)a. Subsonic

**b. Transonic**c. Sonic39. During takeoff preferably aircraft will go(Ref-ACK 216)**a. Against the wind**b. Along with windc. None of the above40. The ratio ofInertial to elastic force is called a. Reynolds nob. Euler’s no**c. Mach no** 41. Centre of drag is(Ref-ACK 148)a. Aircraft speed**b. Actual position depends on the relative resistance of different parts of airplane**c. None of the above42. The effects of an increase of altitude(Ref-ACK 226)a. Slight reduction in minimum speed

b. Increase in maximum speed**c. Large reduction in rate of climb**d. All the above43. At steady level flight lift is equal to(Ref-ACK 148)a. Thrustb. Drag**c. Weight**44. During climbing turn lift on a inner wing is (Ref-ACK 224)a. More**b. Less**c. Same45. As weight of aircraft increases, lift has to be increased by increasing?**a. AOA**b. Velocityc. Drag46. In an ordinary turn the inward centripetal force is provided by the aero plane(Ref-ACK 236)

a. Climbingb. Gliding**c. Banking**47. Sharp leading edges are used in supersonic wings to reduce the (Ref-ACK 488)a. Lift **b. Drag** c. Weight48. If we increase or decrease the best angle which gives L/D the path of descent will be(Ref-ACK 182)a. Flatter**b. Steeper**c. Same49. If the aircraft will glide along the wind the path of descent will be(Ref-ACK 184)**a. Flatter**b. Steeperc. Same50. Expansion wave in supersonic flow is a region where the speed will (Ref-ACK 488)**a. Increase** b. Decrease

c. Constant51. If wing loading is increasing then stalling speed will be(Ref-ACK 193)**a. Increasing**b. Decreasingc. Remains the same52. The tail plane can produce lift in either the +ve or –ve in order to produce the required moment for(Ref-ACK 151)a. Pitch up**b. Trim**c. Pith down53. At lower altitude power required is (Ref-ACK 223)**a. Less**b. Morec. No change54. Service Ceiling is the height at which rate of climb becomes(Ref-ACK 225)**a. Less than 0.5m/s**b. More than 0.5m/sc. Constant55. The aero plane may travel upwards or downwards along the normal axis as in(Ref-ACK 230)a. Climbingb. Descending**c. Both** 56. The Aero plane may travel to right or left along the lateral axis such motion is called(Ref-ACK 230)a. Side slippingb. Skidding

**c. Both**57. In climbing turn necessity for holding off bank is (Ref-ACK 243)**a. More**b. Less

c. No Required58. Dutch roll a. Only Yaw

b. Only Roll**c. Combination of Yaw & Roll**59. The propeller torque and engine torque will be exactly (Ref-ACK 131)a. Same **b. Equal and opposite**c. None60. The ratio of the useful work given out by the propeller to the work put into it by the engine is(Ref-ACK 138)a. Work done**b. Efficiency**c. Power61. Movement of the center of gravity during flight caused, for instance, by(Ref-ACK 149)a. Consumption of fuelb. Movement of passengers**c. Both a and b**62. The angle of attack or the attitude of the aero plane to the air is the same in level flight at all heights, provided the IAS(Ref-ACK 166)a. Increases b. Decreases **c. Remains same**63. The less the total weight of the aircraft, the indicated airspeed will be(Ref-ACK 167)a. More**b. Less**c. Same64. L/D is Maximum and drag will be(Ref-ACK 169)**a. Least**b. Maximumc. No change65. The angle of attack that gives the best L/D ratio will be the same at whatever the (Ref-ACK 169)a. Heightb. Weight**c. Both a and b**66. The drag is the same at the same \_\_\_\_\_\_\_\_\_ at all heights(Ref-ACK 171)**a. IAS**b. TASc. None67. The higher we go, the greater is the\_\_\_\_\_\_\_\_\_ for the same (Ref-ACK 172)**a. TAS**b. Dragc. Weight68. The higher we go, the greater is the TAS and therefore the greater the (Ref-ACK 172)a. Power Available**b. Power required**c. Drag69. To get maximum endurance we must use the(Ref-ACK 173)a. Maximum power**b. Minimum power**c. Same power70. If the aircraft will glide against the wind the path of descent will be(Ref-ACK 184)a. Flatter**b. Steeper**c. Same71. When banking on a turn the lift on the wings must be greater than the(Ref-ACK 190)a. stalling speed**b. weight**c. None72. The increase in drag tends to steepen the (Ref-ACK 209)a. Gliding angle b. Gliding attitude**c. Both**73. Wherever the power available curve is \_\_\_\_\_\_\_\_\_ the power required curve, level flight is possible**a. Above**b. Belowc. Same74. The power available to \_\_\_\_\_\_\_\_\_ with altitude**a. Decreases**b. Increasesc. Same75. The power required to \_\_\_\_\_\_\_\_\_ with altitudea. Decreases**b. Increases**c. Same76. TAS for the best rate of climb \_\_\_\_\_\_\_\_\_ with height**a. Increases**b. Decreasesc. Remains same77. The greater the centripetal acceleration required, the higher will be the (Ref-ACK 236)a. Stalling Angle**b. Stalling Speed**c. None of the above78. Increase in velocity needs an \_\_\_\_\_\_\_\_\_\_\_ in the angle of bank(Ref-ACK 239)**a. Increase**b. Decreasec. Remains same79. The radius of the turn is increased the angle of bank may be(Ref-ACK 246)**a. Increased**b. Reducedc. Remains same80. Steep turns can only be accomplished if the engine is powerful enough to keep the aeroplane travelling at(Ref-ACK 241)a. High speed and low angles of attackb. High speed and large angles of attack**c. High speed and large angles of attack even at stalling angle**81. Modern aircraft have a small side surface and if this coupled with\_\_\_\_\_\_\_\_ directional stability(Ref-ACK 245)a. Poor **b. Good** c. None82. The radius of turn can be reduced as the angle of bank is\_\_\_\_\_\_\_\_\_(Ref-ACK 239)**a. Increased**b. Decreasedc. Remains the same

83. \_\_\_\_\_\_\_\_\_\_ is very rarely performed in practice(Ref-ACK 251)a. Flat Dive**b. Steep dive**c. Both84. Maximum climb speed of aircraft a. Increases with altitude**b. Decreases with altitude**c. No change85. The ideal aero plane must be one in which there is no\_\_\_\_(Ref-ACK 160)a. Aspect ratiob. Fineness ratio**c. Parasite drag**86. In the nature of a flying wing , we should than obtain a lift (Ref-ACK 160)a. 20 times greater than dragb. 30 times greater than drag**c. 40 times greater than drag**87. At high speed tight turn radius of turn will be(Ref-ACK 223)**a. small**b. Largec. Same89. The aircraft stopped rolling and provided it is still travelling straight ahead the aerodynamic force will be influenced by**a. Airstream passing over and below the aircraft**b. Airstream passing over the aircraftc. Airstream passing below the aircraft90. Aircraft take off angle of attack during climbinga. at 25 degree of AOAb. above the stalling angle**c. Below the stalling angle**91. Greater range if we fly a great deal faster than the(Ref-ACK 175)**a. Minimum drag speed**b. Maximum drag speedc. Maximum stalling speed92. The tangent of the gliding angle is directly dependent on the(Ref-ACK 181)**a. L/D ratio**b. Fineness ratioc. Aspect ratio93. The greater the value of L/D the gliding angle will be(Ref-ACK 181)**a. Flatter**

b. Steeper

c. No change94. When banking on a turn the lift on the wings must be(Ref-ACK 190)**a. greater than the weight** b. Lesser than the weightc. Same as the weight95. The altitude at which required power and available power curve are tangential to each other isa. Service ceiling

**b. Absolute ceiling**

c. Absolute power96. In aerobatics every part of an aero plane is given load factor which varies accordingly to conditions being usually(Ref-ACK 236)**a. Between 4 and 8**b. Between 2 and 4

c. Between 1 and 497. The angle of bank is quite independent of the\_\_\_\_\_\_(Ref-ACK 238)**a. Weight**b. Liftc. Drag98. As the angle of bank increases lift will(Ref-ACK 239)**a. Increase** b. Decreasec. Same99. The normal duties of the engine arte to propel the aero plane at(Ref-ACK 241)a. High speed at small angle of attackb. Low speed and large AOA**c. Both**100. A nose dive is really an exaggerated form of(Ref-ACK 251)**a. Gliding**

b. Climbing

c. Level flight101. In steep dive the weight is entirely balanced by(Ref-ACK 251)a. Lift

**b. Drag**

c. Thrust102. In gliding \_\_\_\_\_\_ is rarely performed in practice(Ref-ACK 251)a. Flatter glide**b. Steep dive**c. None103. The aileron act also as flap is known as(Ref-ACK 197)a. Ruddervatorb. Elevons**c. Flaperons**104. Differential movement of tail surface is known as (Ref-ACK 197)a. Flaperons

b. Elevons

**c. Tailerons**105. Low minimum speed and high maximum speed of aircraft will give(Ref-ACK 192)a. poor speed range **b. Good speed range** c. None106. When the flap is lowered and the chances are that center of pressure on top of the surface will move (Ref-ACK 213)**a. Forward**

b. Backward

c. Remains same107. Streamlining will give (Ref-ACK 208)**a. Flatter glide angle** b. Steeper glide anglec. Steep dive108. Estimating the power available from the engine and power required for level flight at various speed is given by (Ref-ACK 218)**a. Performance curve**b. Lift curvec. Drag curve109. The pilot can put the nose down slightly and maintain level flight at an (Ref-ACK 217)a. Increased speed & increased AOA**b. Increased speed & decreased AOA**c. Decreased speed & decreased AOA110. At any certain height the power available & power required curve to each other called**a. Absolute ceiling**b. Service ceiling c. Absolute power

111. Lowering flaps during the glide will generally\_\_\_\_\_\_\_\_ the glide(Ref-ACK 484)a. Flatten

**b. Steepen**

c. No Effect112. During climb an increase in weight will mean a reduction in (Ref-ACK 285)a. Range

b. Endurance

**c. Both**113. The instrument is used for measuring the flight Mach no of an aircraft\_\_\_\_\_\_\_\_\_\_\_\_(Ref-ACK 488)a. Speedometer

b. Ammeter

**c. Mach meter**

**FLIGHT STABILITY AND DYNAMICS**

**SUB MODULE 04**

Q1. What is controllability ?

**A. Response of an aircraft to the pilots commands.**

B. directed along the pilot flight path

C.NOTA

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q2. Types of stability?

A. Static Stability

B. Dynamic Stability

**C. Both A and B**

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q3. The initial tendency or direction of movement back to equilibrium .

**A. Static Stability**

B. Dynamic Stability

C. Both A and B

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q4. The initial tendency of an aircraft to return to the original state of equilibrium after being disturb.

**A. Positive Static Stability**

B. Negative Static Stability

C. Neutral Static Stability

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q5. The initial tendency of the aircraft to remain in a new condition after its equilibrium has been disturbed.

A. Positive Static Stability

B. Negative Static Stability

**C. Neutral Static Stability**

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q6. The initial tendency of an aircraft to continue away from the original state of equilibrium after being disturbed.

A. Positive Static Stability

B. Neutral Static Stability

**C. Negative Static Stability**

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q7.The aircraft response over time when disturbed from a give AOA , slip, or bank.

A. Static Stability

**B. Dynamic Stability**

C. Both A and B

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q8.Longitudinal stability or instability depends on MTCS,

**A. Location of the horizontal tail surfaces with respect to the CG.**

B. Location of the horizontal tail surfaces with respect to the CP.

C. Both A and B

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q9. Longitudinal stability or instability depends on

A. Location of wing with respect to the CG

B. as in A location of the horizontal tail surfaces with respect to the CG

**C. as in B Area or size of the tail surfaces.**

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q10. Longitudinal stability is the quality that makes an aircraft stable about which axis ?

**A. Lateral axis**

B. Normal axis

C. Longitudinal axis

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q11. Nose moves up and down it is?

**A. Pitching movement**

B. Rolling movement

C. Yawing movement

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q12. When the AOA increases then CL?

A. Moves aft

**B. Moves forward**

C. Remains same

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q13. When the lift on leading is maximum?

A. CL constant neither aft not forward

B. CL moves aft

**C. CL moves forward**

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q14. Centre of lift is also known as.........

**A. Centre of Pressure (CP)**

B. Centre of Gravity (CG)

C. AOA

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q15. Nose heavy condition ?

**A. CL is to rear of the CG**

B. CL is the to front of the CG

C. Both A and B

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q16. Aircraft speed decreases then ...........

A. The speed of the airflow over the wing is increases

**B. The speed of the airflow over the wing is decreases**

C. The speed of the airflow over the wing is constant

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q17. In turn the aircraft nose ...........

A. Pitch up more

**B. Pitch down more**

C. Both A and B

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q18. High thrust line

**A. Line of thrust passes above the CG**

B. Line of thrust passes below the CG

C. NONE Question

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q19. Nose up condition...........

A. Thrust line above the CG

**B. Thrust line below the CG**

C. Thrust line through the CG

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q20. Nose down condition .............

**A. Thrust line above the CG**

B. Thrust line below the CG

C. Thrust line through the C

(REF: EASA MODULE 08 BOOK SUB MODULE 04)

Q21. Dihedral wings combat instability in.

A. yaw.

**B. side-slip.**

C. pit*c*h.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q22. An aircraft, which is longitudinally stable, will tend to return to level flight after a movement in which axis?.

**A. Pitch.**

B. Yaw.

C. Roll.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q23. The normal axis of an aircraft passes through.

**A. the centre of gravity.**

B. a point at the centre of the wings.

C. at the centre of pressure.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q24. Directional stability is maintained.

A. by the tailplane, and controlled by the elevators.

**B. by the keel surface and fin, and controlled by the rudder.**

C. by the mainplanes, and controlled by the ailerons

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q25. Sweepback of the wings will.

A. decrease lateral stability.

B. not affect the lateral stability.

**C. increase lateral stability.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q26. Directional stability is about the.

A. lateral axis.

B. longitudinal axis.

**C. normal axis.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q27. Lateral stability is about the.

**A. longitudinal axis.**

B. normal axis.

C. vertical axis.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q28.If the aircraft turns and side-slips.

A. the sweepback of the wing will correct the sideslip.

B. the keel surface will correct the sideslip.

**C. the dihedral of the wing will correct the sideslip**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q29. The fin gives stability about which axis?.

A. Longitudinal axis.

B. Lateral axis.

**C. Normal axis**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q30. Movement of an aircraft about its normal axis.

A. is rolling.

**B. is yawing.**

C. is pitching.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q31. Movement of an aircraft about its lateral axis.

A. is rolling.

B. is yawing.

**C. is pitching.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q32. Movement of an aircraft about its longitudinal axis.

**A. is rolling.**

B. is yawing.

C. is pitching.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q33. If an aircraft returns to a position of equilibrium it is said to be.

**A. positively stable.**

B. neutrally stable.

C. negatively stable.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q34. The pendulum effect on a high wing aircraft.

A. has no effect on lateral stability.

**B. increases lateral stability.**

C. decreases lateral stability.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q35. Yawing is a rotation around.

A. the lateral axis obtained by the rudder.

**B. the normal axis obtained by the rudder.**

C. the normal axis obtained by the elevator.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q36. Sweepback of the wings will.

A. increase lateral stability at high speeds only.

B. not affect lateral stability.

**C. increase lateral stability at all speeds**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q37. If you have an aircraft that is more laterally stable then directionally stable it will tend to : .

A. bank.

B. slip.

**C. skid.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q38. Which control surfaces provide lateral control , also longitudinal control and stability?.

A. Ruddervators.

**B. Tailerons.**

C. Flapperons.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q39. If, after a disturbance, an aeroplane initially returns to its equilibrium state.

A. it has neutral stability.

**B. it has static stability and may be dynamically stable.**

C. it is neutrally unstable.

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q40. The lateral axis is.

A. a straight line through the CG at right angles to the longitudinal and lateral axis.

B. a straight line through the CG from nose to tail.

**C. a straight line through the CG parallel to a line joining the wingtips.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

Q41. The main factors which affect longitudinal stability are.

A. design of the fuselage and position of the CG.

B. design of the mainplane and position of the CG.

**C. design of the tailplane and position of the CG.**

Ref: (EASA MODULE 08 BOOK SUB MOD 04) Level- 2

1. In the half way the stability and instability is called (Ref-ACK 257)a. Perfect stability b. Out of trim stability **c. Neutral stability** 2. Directional control is provided by (Ref-ACK 273)**a. Rudder** b. Aileron c. Elevator 3. If the aircraft is sideslip which stability is affected (Ref-ACK 267)a. Longitudinal stability b. Dynamic stability**c. Directional stability** 4. The axis which passes from nose to tail is called a. Lateral axis **b. Longitudinal axis** c. Vertical axis 5. The normal axis which passes through **a. CG** b. CP c. Both 6. The position of cg which is too far back (Ref-ACK 259)**a. Longitudinal instability** b. Lateral instability c. Both 7. The longitudinal stability is depend upon (Ref-ACK 260)a. The position of C.G b. The tail planec. The tail plane its area and distance from C.G **d. All**8. In all airplane when flying at a small AOA there is a resistance to roll on the down going wing will increase (Ref-ACK 262)a. Liftb. AOA**c. Both**9. Airplane which have a hail tail plane on top of a high fin (Ref-ACK 267)a. Directional stability

**b. Lateral stability**c. Longitudinal stability10. When the controls are incorporated ------------ will be activated (Ref-ACK 285)**a. Stick shaker** b. Stick pusher c. Both 11. MTCS-about stability**a. Stability characteristics about all axis are different**b. Stability around lateral axis is different from stability around roll and yaw axisc. Stability around all axis are same12. Longitudinal stability is affected by (Ref-ACK 259)**a. Wing**b. Vertical stabilizerc. Rudder13. Longitudinal stability is highly affected due to (Ref-ACK 259)a. Movement of tail plane**b. Movement of center of gravity**c. Movement of center of pressure14. The control surfaces are placed as far as possible away the\_\_\_\_\_\_\_\_\_ So as to provide sufficient leverage to alter the position of the airplane. (Ref-ACK 274)a. Center of pressure

**b. Center of gravity**c. Aerodynamic center 15. Longitudinal stability is affected by**a. Hull**

b. Vertical stabilizer

c. Rudder16. If pitching moment about fuselage disturbed then which stability is affected (Ref-ACK 260)a. Lateral **b. Longitudinal**c. Directional17. If directional stability is too much and too little dihedral (Ref-ACK 272)a. Dutch roll

b. Yaw divergence

**c. Roll Divergence**18. Which of the following effects on stabilitya. Stick fixed

b. Stick free

**c. Both**19. More directional and less lateral stability (Ref-ACK 486)a. Dutch roll**b. Spiral divergence**c. Directional divergence20. Trim tab requires a. More stick force

b. Less stick force

**c. Zero stick force**21. During a common method used to eliminate Dutch roll is by**a. Yaw damping**b. Climbingc. Gliding22. Distribution of fuselage side surface more than ahead of CG than after will affect (Ref-ACK 268)**a. Directional stability**

b. Lateral stabilityc. Longitudinal stability23. The stability which is very rarely achieved in practice (Ref-ACK 258)a. Lateral stabilityb. Longitudinal stability**c. Dead-beat stability**24. Stick fixed condition (Ref-ACK 258)**a. The elevators are held in their neutral position relative to the tail plane**b. The pilot releases control column and allows the elevators to take up their own positions c. Both a and b

25. The longitudinal dihedral is made for a. High – speed aircraftb. Low – speed aircraft**c. Most aircraft**26. If the aircraft has sweepback wing and stall on tip the aircraft gives which movement**a. Pitching**

b. Yawing

c. Rolling27. Longitudinal stability is about which axis (Ref-ACK 259)**a. Lateral axis**b. Longitudinal axisc. Normal axis28. A small fin at the end of long fuselage may be just as effective in producing (Ref-ACK 268)a. Lateral stability

b. Longitudinal stability**c. Directional stability**29. Aircraft will have weaker positive directional opposed to positive lateral stability can result in aa. Spiral divergenceb. Directional divergence**c. Dutch roll**30. During equilibrium flight operation stability depends ona. Magnitude of force applied b. Length from the C.G**c. Both a and b**31. The most common method of obtaining lateral stability by use of **a. dihedral angle on main plane** b. Dihedral of tail planec. Both32. When an aircraft is in damping oscillation at a period of time **a. Dynamic stability**b. Static stabilityc. Static negative stability33. Longitudinal instability is due to the (Ref-ACK 260)**a. Pitching movement on main plane**b. Rolling movement on wings

c. Yawing movement on tail plane 34. Stick free condition (Ref-ACK 258)a. The elevators are held in their neutral position relative to the tail plane**b. The pilot releases control column and allows the elevators to take up their own positions**c. Both a and b35. Lateral stability about which axis (Ref-ACK 259)a. Lateral axis b. Directional axis **c. Longitudinal axis** 36. Lateral stability is maintained by (Ref-ACK 267)**a. sweep back angle**b. Angle of incidence c. Angle of attack

37. If the planes are inclined upward towards the wing tips the dihedral (Ref-ACK 262)**a. Positive**

b. Negative

c. Neutral38. Lateral stability can be reduced by (Ref-ACK 262)a. Swept back angle**b. Anhedral angle**c. Dihedral angle 39. Angle between main plane and tail plane is known as (Ref-ACK 260)**a. Longitudinal Dihedral angle** b. Angle of bank c. Angle of attack40. The stability of an aircraft considered during design of the aircraft (Ref-ACK 257)a. Lateral stability**b. Inherent stability**c. Dead-beat stability41. If rudder pedal is un-operative than which may be useda. Stick shaker

**b. Stick pusher**

c. Sensor42. The pendulum effect on high wing aircraft (Ref-ACK 274)**a. Increase lateral stability**b. Decrease lateral stabilityc. Has no effect on lateral stability43. Which tab requires more stick forcea. Balanced tab

**b. Anti-Balanced tab**

c. Spring tab44. Forces & moments on the body caused by a disturbance initially tends to return the body towards its equilibrium positiona. Dynamic Stabilityb. Equilibrium position**c. Static stability**45. Modification of servo tab is called (Ref-ACK 277)a. Balanced tab b. Trim tab **c. Spring tab**46. Differential aileronsa. Upward aileron movement is large**b. Downward aileron movement is large**c. Upward aileron movement is small47. In Slot-cum-aileron control if aileron is move down then the slat will (Ref-ACK 284)**a. Open**

b. Close

c. No change48. Adverse yaw will be counteracted by a. Wash outb. Slot-cum-aileron control**c. Both**49. The airflow crosses expansion wave its velocity will**a. Increase**b. Decreasec. Remains same50. Mass Balancing Will reduce (Ref-ACK 279)a. Speed

b. Drag

**c. Flutter**51. Degree of stability affected by (Ref-ACK 258)a. Stick fixed

b. Stick free

**c. Both**52. If CG is low in high wing aircraft (Ref-ACK 265)a. Longitudinal stability**b. Lateral stability**c. Pitching53. Mark the correct statement (Ref-ACK 260)a. If the plane does not have longitudinal dihedral it means its longitudinally unstable**b. Longitudinal dihedral means actual angle at which tail plane expose to airflow**c. Both a and b