Q1. Flaps at landing position.

**A. decrease landing speed.**

B. decrease take off and landing speeds.

C. decrease take off speed.

Q2. As a subsonic aircraft speeds-up, its Centre of Pressure.

A. moves aft.

**B. moves forward.**

C. is unaffected.

Q3. Lowering of the flaps.

A. increases drag.

B. increases lift.

**C. increases drag and lift.**

Q4. Wing spoilers, when used asymmetrically, are associated with.

A. rudder.

B. elevators.

**C. ailerons.**

Q5. What do ruddervators do?.

A. Control yaw and roll.

B. Control pitch and yaw.

**C. Control pitch and roll.**

Q6. What controls pitch and roll on a delta wing aircraft?.

A. Ailerons.

**B. Elevons.**

C. Elevators.

Q7. 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.**

Q8. 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.

Q9. 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.

Q10. 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.

Q11. 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.

Q12. 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.**

Q13. 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.

Q14. 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.

Q15. 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.

Q16. The stall margin is controlled by.

A. speed bug cursor.

B. EPR limits.

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

Q17. Other than spoilers, where are speed brakes located?.

A. Under the Fuselage.

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

C. On the wing.

Q18. 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.**

Q19. A device used do dump lift from an aircraft is.

A. leading edge flaps.

B. trailing edge flaps.

**C. spoiler.**

Q20. 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.**

Q21. 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.

Q22. Which part of the wing of a swept-wing aircraft stalls first?.

**A. Tip stalls first.**

B. Both stall together.

C. Root stalls first.

Q23. 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.

Q24. 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.**

Q25. 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.

Q26. With a drop in ambient temperature, an aircraft service ceiling will.

**A. rise.**

B. not be affected.

C. lower.

Q27. What type of flap is this?.

**A. Split flap.**

B. Plain flap.

C. Fowler flap.

Q28. 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.

Q29. 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.**

Q30. 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.

Q31. 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.

Q32. 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.

Q33. 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.

Q34. Dutch role is movement in.

A. yaw and pitch.

**B. yaw and roll.**

C. pitch and roll.

Q35. 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.

Q36. Flap asymmetry causes the aircraft to.

A. nose down.

**B. go one wing down.**

C. nose up.

Q37. If an aircraft moves in yaw, what axis is it moving about?.

A. Longitudinal.

B. Lateral.

**C. Normal.**

Q38. If an aircraft is aerodynamically stable.

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

B. CofP moves back.

C. aircraft becomes too sensitive.

Q39. What are ground spoilers used for?.

A. To assist the aircraft coming to a stop.

B. To slow the aircraft.

**C. To dump lift.**

Q40. 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.

Q41. 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.**

Q42. Angle of Attack is the angle between cord line and.

A. horizontal axis.

**B. relative air flow.**

C. tip path plane.

Q43. A high lift device is used for.

A. take-off only.

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

C. landing only.

Q44. How is a spoiler interconnected to other flight control systems?.

A. Spoiler to elevator.

**B. Spoiler to aileron.**

C. Spoiler to flap.

Q45. 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.

Q46. Earths atmosphere is.

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

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

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

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.**

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.

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

**A. longitudinal axis.**

B. normal axis.

C. lateral axis.

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.

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.

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.

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.

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.

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.

Q56. Dutch Roll affects.

A. pitch and yaw simultaneously.

**B. yaw and roll simultaneously.**

C. pitch and roll simultaneously.

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

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

B. Roll spoilers, elevators, tabs.

C. Elevators, roll spoilers, tabs.

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.

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.

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.

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.

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.

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.**

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.**

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.

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.

Q67. Elevons combine the functions of both.

A. rudder and elevator.

**B. elevator and aileron.**

C. rudder and aileron.

Q68. Flutter can be reduced by using.

A. a horn balance.

**B. mass balancing**.

C. servo tabs.

Q69. An elevator provides control about the.

A. longitudinal axis.

**B. lateral axis.**

C. horizontal stabilizer.

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.

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.**

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

A. Slot.

B. Split.

**C. Fowler.**

Q73. Wing loading of an aircraft.

A. varies with dynamic loading due to air currents.

**B. is independent of altitude.**

C. decreases with density.

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

**A. high.**

B. high or low.

C. low.

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.

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.

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

A. pitch nose up.

**B. pitch nose down.**

C. sink.

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.

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

A. ailerons.

**B. elevator.**

C. rudder.

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

A. ailerons.

B. elevator.

**C. rudder.**

Q81. Dutch roll is.

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

B. primarily a pitching instability.

C. a type of slow roll.

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

**A. ailerons.**

B. elevator.

C. rudder.

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.**

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.**

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

A. Relative humidity.

**B. Absolute humidity.**

C. Dew point.

Q86. An anti-balance tab is moved.

**A. via a fixed linkage.**

B. hydraulically.

C. when the C.G. changes.

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.

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.

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.**

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.**

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.

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

A. plain flap.

B. split flap.

**C. Fowler flap.**

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

A. Split flap.

**B. Fowler flap.**

C. Slotted flap.

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

A. Elevator.

**B. Tailplane.**

C. Rudder.

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.

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.

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.

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

A. Elevator.

B. Aileron.

**C. Rudder.**

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.

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

**A. ailerons.**

B. rudder.

C. elevators.

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.

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**.

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

**A. slat.**

B. slot.

C. flap.

Q104. Asymmetric flaps will cause.

A. the aircraft to descend.

B. the aircraft to ascend.

**C. one wing to rise.**

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.

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

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

B. Aspect ratio.

C. Fineness ratio.

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.

Q108. When an aircraft stalls.

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

B. lift and drag increase.

C. lift decreases and drag increases.

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.

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.**

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.**

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.

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.

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.

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.**

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.

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.

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.**

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

A. remains the same.

B. increases.

**C. decreases.**

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.

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.

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.

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.

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.

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.

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.**

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

A. Flap and slat.

**B. Slat.**

C. Flap.

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.

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.**

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.