Question block created by wizard

This exam contains 140 questions.

1. When spoilers operate in ROLL mode, what happens to the spoiler panels?

a. Only the spoiler panels are raised on the upward moving wing.
b. Only the spoiler panels are raised on the downward moving wing.
c. They all move UP the same amount.

2. Where are elevons installed?

a. To each side of the aircraft on the leading edge of the wing.
b. To one side of the aircraft on the trailing edge of the wing.
c. To each side of the aircraft on the trailing edge of the wing.

3. What type of aerodynamic balance system is shown in the figure below?

a. Aerodynamic balance panel
b. Inset Hinges
c. Horn Balance

4. How does the air act at low-speed aerodynamics?

a. as a solid.
b. as a fluid.
c. as a gas.

5. What happens when an aircraft reaches its critical Mach number?

a. The aircraft is flying supersonic from that point on.
b. A normal shock wave is formed on the wing.
c. The wing cannot produce any more lift and the aircraft stalls.

6. On a subsonic jet engine, what type of intake will be used?

a. Pilot intake.
b. Divergent duct-intake.
c. Three-shock intake.

7. What is the meaning of a "fail-safe structural design"?

a. It means that in case of partial structural failure the pilot will be informed by a caution warning.
b. It is just a fancy expression used as commercial argument.
c. It indicates that structural loads are shared over multiple parts.

8. What is the main reason of having drains in the aircraft structure?

a. To avoid the extra weight. This can overload the structure.
b. The humidity caused by the fluid can influence the air-conditioning system.
c. Collecting fluids without draining could cause fire, corrosion or causing short cuts in the electrical system.

9. In which of the following construction methods does the skin take up ALL the stresses?

a. Semi-monocoque.
b. Monocoque.
c. Stressed skin construction.

10. A bonded metal-to-metal joint will be:

a. Weaker than a riveted joint.
b. Stronger than a riveted joint.
c. Just as strong as a riveted joint.

11. What is the most common used surface protection for aluminium alloy?

a. Cladding
b. Paint
c. Electroplating

12. To carry out a correct alignment check, the aircraft is jacked up. What must be done next?

a. Level the datum lines in the horizontal plane.
b. Start with the alignment check.
c. Level the datum lines in the flight position.

13. Which of the following compartments is usually unpressurized?

a. Rear fuselage area.
b. Avionics compartment.
c. Cargo compartment.

14. Why are non-magnetic bolts used on the front windshields?

a. They are less likely to be hit by lightning.
b. So they don't interfere with the standby compass.
c. They are stronger than other bolts.

15. What is the most critical part of a wing as far as the production of lift is concerned?

a. Trailing edge and bottom side of the wing.
b. Front end or leading edge.
c. Top and bottom side of the wing.

16. Integral fuel tanks are sealed by:

a. Rubber O-rings and gaskets.
b. Using sealant on all seams and rivets.
c. Rubber bladder tanks.

17. Radio antenna and HF equipment can typically be found on or in

a. Vertical stabilizer.
b. Horizontal stabilizer.
c. Avionics bay.

18. On the vertical stabilizer, which fittings take up the most of the lateral loads?

a. Aft fittings.
b. Top fittings.
c. Forward fittings.

19. The slats are supported by:

a. Hinges.
b. Straight tracks.
c. Curved steel tracks.

20. What type of aircraft does not need mass balancing?

a. Aircraft operated with control cables.
b. Aircraft controlled with fly-by-wire.
c. Aircraft equiped with aerodynamic balance tabs.

21. What is the purpose of a blow-out panel (inside a nacelle)?

a. To allow excess pressure to escape from the nacelle in case of a bleed duct rupture.
b. To allow pressure inside the nacelle to escape in case of fire.
c. To allow the air-pressure to equalize if the pressure inside the nacelle becomes lower than outside.

22. Which components are part of the firewall?

a. Hinged cowlings but only when open.
b. Hinged cowlings.
c. Exhaust cowling.

23. Where is the ground air conditioning cart used for?

a. Supplying the cabin with conditioned air, when only the cabin needs to be conditioned.
b. Starting the engines.
c. Running the de-icing system.

24. The RAM air supply is used....

a. only on unpressurized aircraft.
b. as an emergency air source on pressurized aircraft to ventilate the cockpit and the cabin.
c. as an alternate source to power the air-conditioning packs.

25. Before the air from the air conditioning pack enters the cabin:

a. Water is added to it to cool the air down.
b. Hot air is added to it to obtain the desired cabin temperature.
c. Cold air is added to it to obtain the desired cabin temperature.

26. The EASA requirement for air conditioning systems state that the cabin air must be exchanged:

a. 3 to 5 times a minute.
b. Once every hour.
c. Every 3 to 5 minutes.

27. What are the 3 basic principles of an air cycle cooling system?

a. Surface heat exchange - combustion - energy conversion
b. Compression - expansion - condensation
c. Surface heat exchange - expansion - energy conversion

28. What happens to the air temperature and air pressure when it leaves the compressor ACM (Air Cycle Machine)?

a. Both will be higher than the air going into the compressor.
b. Both will be lower than the air going into the compressor.
c. The temperature will rise and the pressure will drop.

29. In an air-conditioning pack is an anti-ice valve installed. How does it work?

a. Hot air will bypass the air cycle machine (ACM) and so the turbine will slow down in rpm.
b. When icing occurs in the water separator, hot air will bypass the air cycle machine (ACM) and will be used to heat up the water separator.
c. Hot air from the anti-ice valve will close as protection the pack flow valve.

30. What happens if an air conditioning pack overheats?

a. It goes into full cold mode.
b. It automatically shuts down.
c. I automatically slows down.

31. The outflow valve of a pressurized cabin system opens when the cabin pressure is....

a. too low.
b. too high.
c. too low or too high.

32. During take-off the outflow valve is selected to ....

a. fully closed.
b. fully open.
c. modulating mode.

33. What places the pressure controller in the depressurisation mode after landing?

a. Engines at idle.
b. Engines at idle and the landing gear compressed.
c. Landing gear compression.

34. How is the emergency pressure control valve operated if the automatic control system fails?

a. Manually
b. Electrically
c. Hydraulically

35. The emergency pressure control valve....

a. is fitted to all pressurized aircraft.
b. is electrically controlled.
c. is not a very refined way of controlling.

36. Which of the following instruments is NOT an air data instrument?

a. Attitude
b. Vertical speed
c. Airspeed

37. On which display can I find the glide slope and localizer indication?

a. The attitude director indicator.
b. The horizontal situation indicator.
c. The I.L.S. indicator.

38. A flux valve is used for which type of instrument?

a. A remote reading compass.
b. An altitude director indicator.
c. A direct reading magnetic compass.

39. The critical angle of attack is:

a. Affected by angle of bank.
b. Different at different stall speeds.
c. Not affected by the aircraft weight.

40. When does the electronic attitude director indicator go automatically into composite display?

a. When the engine indication and crew alerting system display fails.
b. When the electronic horizontal situation indicator fails (EADI).
c. When selected by the crew.

41. Which type of fuel flow meter is commonly used in reciprocating engine aircraft?

a. Vane type
b. Motor less type
c. Float type

42. In a Fail Passive System;

a. The crew will disconnect a system before a dangerous situation occurs.
b. The crew is part of the monitoring when only one sensor of one kind is available.
c. The system monitor will disconnect a system before a dangerous situation occurs.

43. The Flight Director provides....

a. thrust commands for the engine trims.
b. computed steering commands to the command bars of the ADI and/or to an autopilot system.
c. data for the air data computers.

44. The Cockpit Voice Recorder....

a. allows a minimum of 30 minutes of recording.
b. contains also all engine and systems parameters.
c. records all voice information of the cabin crew and the passengers.

45. The Passenger Entertainment System PES:

a. provides Video, Music, Interactive Video Games and In-seat Telephone System.
b. provides attendant Call, Individual Reading Lights Control and No Smoking Light on/off.
c. provides primary the passenger with information on ambient aircraft flight data, times and aircraft position in the fight plan.

46. The DME Distance Measurement gives information about:

a. the attitude of the aircraft.
b. the ground distance from the aircraft to the selected ground station.
c. the slant range to the selected ground station.

47. The three critical measurements for the air data computer are:

a. Altitude, groundspeed and coordinates.
b. Airspeed, radio altitude and temperature.
c. Airspeed, Altitude and temperature.

48. Which type of battery can experience cell reversal and how can it be prevented?

a. NiCad battery. Prevented by always fully discharging the battery.
b. NiCad battery. Prevented by never fully discharging the battery.
c. Lead-acid battery. Prevented by fast charging battery.

49. What happens at the end of the charge of a NiCad battery?

a. The cell voltage drops.
b. The battery heats up.
c. CO2 is generated,

50. How do you call the component that completes the magnetic circuit between the poles in a DC generator?

a. The brushes.
b. The yoke.
c. The armature.

51. The output of a single coil generator is

a. a flat line.
b. a saw foot.
c. a sine-wave.

52. If the over-speed protection circuit in a CSD (Constant Speed Drive) has activated, reset is....

a. only possible in the workshop.
b. possible during Line Maintenance.
c. possible from the flight deck.

53. The output sine waves of a 3-phase alternator will be separated by:

a. 90 degrees
b. 60 degrees
c. 120 degrees

54. When will the hydraulic motor generator (HMG) supply power?

a. Manually, when the pilot switches it on after both main AC buses lose power.
b. Automatically when the main battery is discharged.
c. Automatically when both main AC buses lose power.

55. The ram air turbine will supply....

a. single phase AC power.
b. three phase DC power.
c. DC power.

56. How is voltage regulation achieved on DC generators?

By changing the....

a. field current.
b. generator speed.
c. field voltage.

57. In a parallel bus configuration the generators will:

a. Divide the load, with the strongest generators taking the biggest load.
b. Share the load equally among them.
c. Each supply their own AC bus.

58. Transformer rectifiers are used for:

a. Converting DC into AC.
b. Boosting the output voltage from 28V to 110V.
c. Converting AC into DC.

59. What provides overheat warning in a transformer rectifier unit?

a. Thermal switch.
b. Thermocouple.

c. Voltage sensor.

60. Which of the following circuit breakers CANNOT be reset while the fault exists?

a. Electromagnetic circuit breakers.
b. Trip free circuit breaker.
c. Automatic reset circuit breaker.

61. On a large commercial aircraft, which bus will be powered as soon as external power is connected?

a. The external power bus.
b. The ground handling bus.
c. Battery bus.

62. Comfortable seat cushions are often made of foam type materials. Is this authorized on an airplane?

a. Yes, but the cushions are covered with a fire blocking material, this will slow down the burning of the material.
b. Yes, but the cushions are made of a special foam, which cannot burn.
c. No, aircraft cushions are made out of pressed cotton and goose feathers. These pure natural products don't give toxic gases when burning.

63. When does an aircraft needs to be equipped with slides, which can also be used as rafts?

a. All exits with a door sill above 1,8 meter have to be equipped with slides.
b. When the aircrafts flies longer than 90 minutes over water.
c. All aircraft certified for more than 44 passengers need exits equipped with slides.

64. May a demonstration life vest be used in a real emergency?

a. No, the cylinder is empty.
b. Yes, but only if the life time is not expired.
c. Yes, it is the personal life vest of the flight attendant and should be inspected after each demonstration by the flight attendant.

65. In case of electrical power loss, can the pilot still adjust his seat?

a. No. The seat is completely blocked in his its last position.
b. Yes, all the seat functions can always be operated manually.

c. No, without power the electrical functions, vertical and horizontal movement will be lost. Other functions such as recline and lumber support will remain since they have only manual control.

66. Has the observers seat the same functions as the pilot seat?

a. Yes
b. No, on large aircrafts the observer seat is usually very comfortable, but has not as many adjustment possibilities as the pilot seats.
c. Only on large aircraft (B777-B747-A330-A380) where the cockpit surface permits, an identical seat will be installed with all the same adjustments features.

67. How many cockpit seats do we find in a modern aircraft?

a. Mostly five. Captain, first officer, flight engineer, navigator, radio operator.
b. Mostly four. Captain, first officer, flight engineer and minimum one observer seat.
c. Mostly three. Captain, first officer and minimum one observer seat.

68. What is the best description for a "combi aircraft"?

a. This is an aircraft with a mixed configuration. This means that cargo also is loaded on the main deck passenger zone.
b. This just means that the aircraft transport passengers as well as cargo. Passengers in the upper lobe, cargo in the lower.
c. This is an aircraft with a mixed passenger configuration. This means that the aircraft has a mixed cabin lay out. (Ex. first/business/economy)

69. A carbon monoxide detector has to be replaced .....

a. monthly.
b. normally every 90 days.
c. daily.

70. What type of fire detection system is a fenwal detection system?

a. Continuous loop system.
b. Thermocouple system.
c. Spot system.

71. A systron-Donner fire detection system uses .....

a. air.
b. helium gas.

c. nitrogen gas.

72. Which Halon type doesn't use a pressurisation agent?

a. Halon 1211.
b. Halon 1001.
c. Halon 1301.

73. What does the red indicator disk on the fuselage indicate?

a. Indicates that the fire bottle has been fired.
b. Indicates a thermal discharged of the fire bottle.
c. Indicates that the fire bottle has not thermally discharged.

74. On a "Pull-and-turn" fire switch, when is the fire bottle discharged?

a. By pulling the handle up and turning the handle to left or right.
b. By pulling the handle up, turning it to one side and pressing the discharge button.
c. By pulling the handle up.

75. What indicates the yellow disk of a fire bottle (if installed) when it is ruptured?

a. That the bottle has been fired.
b. That the fire bottle is due for inspection.
c. That the pressure in the fire bottle was to high.

76. When should you use water-type portable fire extinguishers?

a. Water-type portable extinguishers can be used for every fire.
b. Water-type portable extinguishers are perfect solid combustible materials even metal fires. (ex: brakes and magnesium wheels). Do not use them on flammable liquid fires.
c. Water-type portable extinguishers are best for solid combustible fires (paper, fabrics, wood etc.). Never use them on electrical or flammable liquid fire.

77. Ground spoilers are used for ....

a. slowing down the aircraft in flight.
b. slowing down the aircraft on ground
c. attitude control.

78. Why is there a balance tab installed?

a. For reducing the effort to move the flight control.
b. For dynamic balancing of the flight control.
c. Where the flight controls are found rather light during initial flight-testing.

79. What is the main advantage for commercial aircraft by using active load control?

a. High manoeuvrability.
b. Reduced structural loading or airframe stress.
c. Increased aircraft speed.

80. What are slat track doors?

a. They can be opened to gain access to the slat tracks for maintenance.
b. They close the gap in the wing leading edge when the slats are extended.
c. They close the gap in the wing when the slats are retracted.

81. What happens when the pilot initiates a left turn, with spoiler augmentation?

a. Only the ailerons are used to roll the aircraft.
b. The LH aileron operate up and the spoilers on the left wing raise further up.
c. The RH aileron operate down and the spoilers on the right wing raise further up..

82. A small input in a primary servo system of a hydraulic powered flying control system initiates ....

a. the same power output as the input initiated.
b. a large power output.
c. a small power output.

83. What is Mach correction?

a. The increasing of the feel force at high Mach numbers.
b. The reduction of the feel force at high Mach numbers.
c. The adjustment of the stabilizer position to compensate for the nose down tendency.

84. What type of aerodynamic balancing system is used on modern, powered flight control surfaces?

a. None.
b. Balance tabs.
c. Servo tab.

85. Where is the stall warning sensor of an electric stall warning system located?

a. On the fuselage below the cockpit windows.
b. In the wing leading edge.
c. On the fuselage above the cockpit window.

86. Where is the trim tank located?

a. In the tail section.
b. In the wing tips.
c. In the wing box.

87. What is the procedure called where the fuel tank is made leak free during construction?

a. A leak prevention plan.
b. A seal plan.
c. A seal procedure.

88. Which statement is true regarding jet pumps?

a. Jet pumps use fuel pressure from the booster pumps to operate.
b. Jet pumps are electrical pumps.
c. Jet pumps are used to pump fuel to the jet engines.

89. What is an indirect drain valve used for?

a. To drain fuel from the highest point of the tank.
b. To drain fuel when the valve is not located at the lowest part of the tank.
c. To drain fuel when there is no drain valve installed.

90. What must be done to transfer fuel from one fuel tank to a fuel tank in the other wing?

a. Not possible.
b. All boost pumps must be on.
c. The crossfeed valve must be opened.

91. What does a fuel density of 1.0 indicate?

a. The wrong type of fuel is in the tanks.
b. There is water in the fuel.
c. There is no water in the fuel.

92. Which control switch would you never find on a refueling control panel?

a. Fuel valve switches.
b. Battery switch.
c. Fuel booster pump switches.

93. What is the purpose of longitudinal balance fuel systems?

a. Keep the centre of gravity as close as possible to the ideal position.
b. Carry more fuel.
c. Trim the aircraft so that there is no need for trimable horizontal stabilizers.

94. What is the advantage of a powerpack compared to a normal hydraulic system?

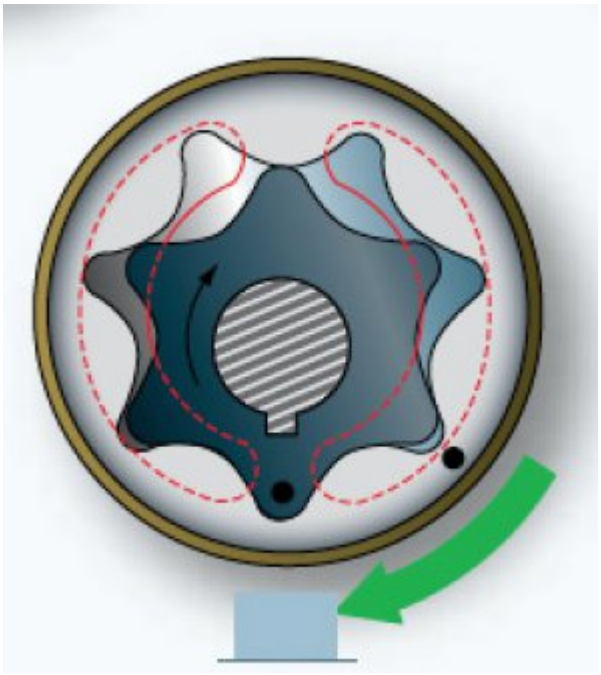
It is a....

a. more powerful system.
b. self-contained system that does not require electrical power from the main electrical system.
c. self-contained system requiring no supply from the main hydraulic system.

95. What defines a good hydraulic fluid?

a. A high fire point.
b. A high viscosity.
c. A low flash point.

96. What type of pump is shown in the figure below?



a. Hand pump
b. Ge-rotor pump
c. Gear pump

97. What is the name of the hydraulic filter located in the pump supply line from the reservoir?

a. A low pressure filter.
b. A return filter.
c. A micronic filter.

98. What monitors hydraulic pump pressure?

a. Pressure sensors.
b. Pressure switches.
c. They are not monitored.

99. Which component in a hydraulic system cannot be tested with a hydraulic cart (or Mule) ?

a. Pumps.
b. Pressure sensors.
c. Landing gear.

100. Which of the following is a visual ice detector?

a. Radioactive ice detector.
b. Hot rod ice detector.
c. Vibrating rod ice detector.

101. Engine anti-ice systems are powered by:

a. Electrical heating mats.
b. Bleed air extracted from the on-side engine.
c. Pneumatic bleed air.

102. Electrical ice protecting systems can be used for....

a. de-icing as well as anti-icing.
b. De-icing only.
c. Anti-icing only.

103. After inadvertently applying rain repellant, you must....

a. immediately operate the windscreen wipers.
b. immediately wash the windscreen.
c. the rain repellant dry before washing the windscreen.

104. Which of the following statements is true?

a. Drainmasts heaters can be controlled from the flight deck.
b. Drainmasts are NOT heated on the ground.
c. Drainmast heaters go to a higher setting when in flight.

105. How does a pneumatic rain removal system work?

a. By using bleed air to operate pneumatic actuators to move the wiper blades.
b. By heating the windscreen with hot bleed air.
c. By blowing high pressure bleed air over the windscreen.

106. What is "wheel track"?

a. The distance between left and right main landing gear.
b. The horizontal distance between main and nose landing gear.
c. The amount of degrees the aircraft deviates from the straight ahead track while taxing.

107. After an emergency landing gear extension the door will:

a. Close.
b. Close if hydraulic power is available.
c. Remain open.

108. A red light inside the landing gear selector lever is illuminated, this means:

a. The landing is up and locked.
b. The landing gear is down and locked.
c. The landing gear is not in selected position.

109. What is a fusible plug?

a. A type of plug to quickly deflate the tyre before replacing it.
b. A type of valve which opens when the tyre pressure gets too high.
c. A type of plug which melts when the tyre gets too hot.

110. What are creep indicators?

a. Shows how much a tyre has moved on the rim.
b. A warning light in the cockpit to show that the aircraft has moved on the ground.
c. Shows how much a tyre has moved compared to the inner tube.

111. During take-off and landing, the rudder pedals can give:

a. Limited nose wheel steering commands.
b. No nose wheel steering commands.
c. Full nose wheel steering commands.

112. What is the advantage that stress sensors have over other air/ground sensing systems?

a. Can measure aircraft weight.
b. Is easier to replace.
c. More reliable.

113. Which lights can be used to detect ice build-up?

a. Position lights.
b. Wing scan lights.
c. Runway turn-off lights.

114. What kind of light is used as cabin flood lighting?

a. Fluorescent tubes.
b. Spot lights
c. Incandescent lightbulbs.

115. Which statement is true?

a. When the internal emergency light switch is used both internal and external emergency light come on.
b. When operating the external emergency light switch both internal and external lights come on.
c. Operating the internal emergency light switch only turns on the internal emergency lights.

116. Cabin chemical oxygen generators are located in?

a. The passenger service units.
b. The cargo hold.
c. The overhead bins.

117. What is the chemical used in chemical oxygen generators?

a. Sodium hydroxide
b. Sodium chlorate and iron
c. Ozone

118. The pressure regulator on an oxygen demand system regulates the pressure to:

a. 90 PSI
b. 70 PSI
c. 400 PSI

119. A green disk on the side of the fuselage is missing, what does this indicate?

a. The maximum pressure in the oxygen cylinder has been exceeded.
b. The oxygen bottle pressure is below operational limits.
c. The maximum pressure in the oxygen supply lines has been exceeded.

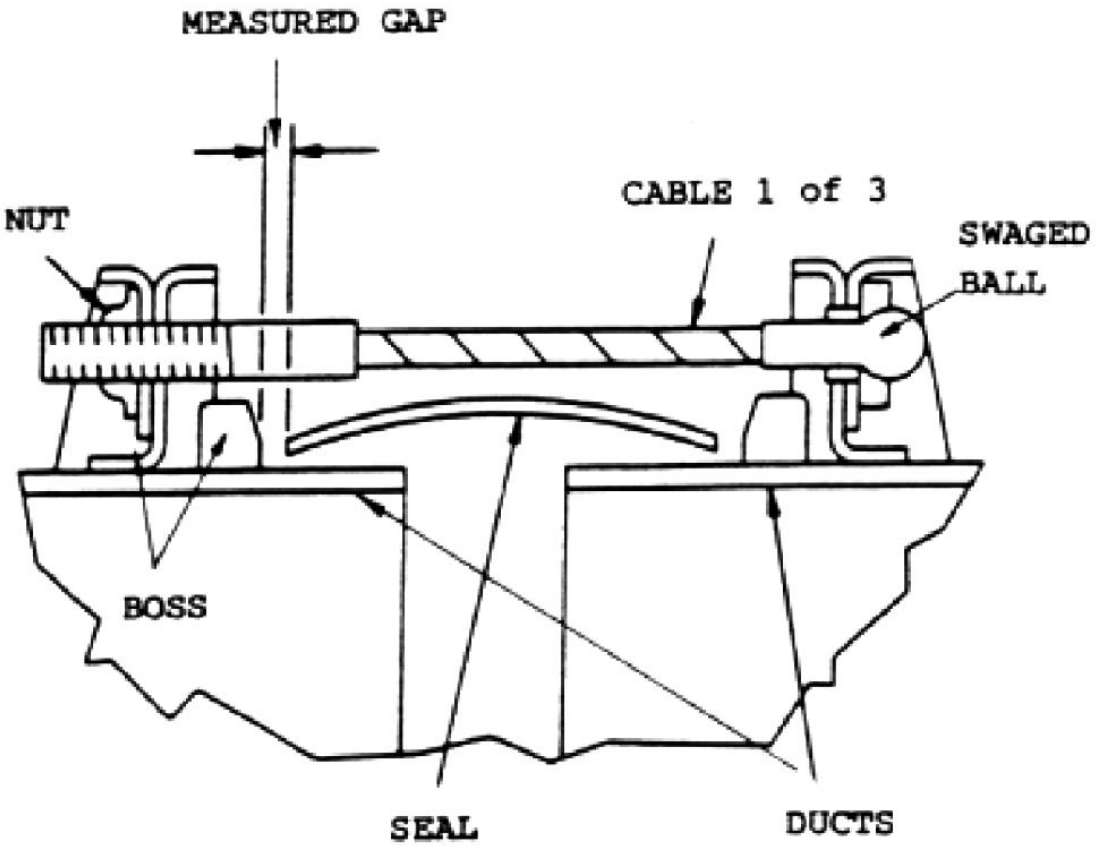
120. Compared to other power sources, what is the benefit of using pneumatic systems?

a. Easier to detect leaks.
b. Power to weight ratio is better.
c. A fire can easily be put out by turn off the supply.

121. The bleed air from the APU can be used:

a. At all altitudes.
b. Up to 18.000ft
c. Up to 18.000m

122. When are cable attachment type of duct fitting joints used?



a. Ducts where large temperature changes exist.
b. Ducts where high pressure changes exist.
c. Large diameter ducts.

123. At low altitudes, what creates the vacuum for the water and waste system?

a. A vacuum pump.
b. The pneumatic system using ventures.
c. The pressure differential between the waste tank and the outside of the aircraft.

124. What is the reason that some large aircraft have 2 servicing panels for the water?

a. To service 1 tank but from two locations.
b. To be able to drain the system completely.
c. To service 2 tanks.

125. What is the toilet drain plug flapper valve used for?

a. Prevents the draining of toilet waste of tank when the cap is open.
b. Prevents the waste tank from emptying in flight.
c. Allows the tank servicing to be done via the drain hose.

126. Which bite test is initiated by the engineer?

a. Continuous bite
b. Start-up bite
c. Interruptive bite.

127. Besides data for the central maintenance system, what else can be uploaded via the data loading system?

a. Navigational database.
b. GPS database.
c. Entertainment data.

128. What type of data link is used by the electronic library system to communicate with ground operations?

a. Bidirectional gate link
b. Arinc 429
c. Mono-directional Ethernet link

129. Besides speed, temperature and pressure, what else is the engine monitored for?

a. Vibration
b. Load
c. Thrust

130. In an aircraft which has Integrated Modular Avionics....

a. all sensors submit information to the flight deck, using WIFI.
b. each passenger seat is equipped with an independent IMA unit, which can be used for In Flight Entertainment.

c. Flight Critical Information is processed by the IMA system.

131. Functions integrated in IMA are:

a. Only for electrical powered systems.
b. Only for hydraulic powered systems.
c. Basically for all aircraft systems.

132. The Boeing common computing resource (CCR) consists of:

a. 2 General processor modules
b. 16 General processor modules
c. 8 General processor modules

133. Airborne electrical AFDX cables are connected with:

a. 4-pins quadrax connections
b. 8-pins RJ-45 connections
c. Fibre-optic couplings.

134. Where is a passenger control unit used for?

a. Communication between passengers and flight crew.
b. Control the area lighting.
c. Selecting audio channels and reading lights.

135. Typical location of the Passenger Control Unit (PCU) is, in the:

a. Overhead Bin, above the passenger.
b. Passenger seat.
c. Avionics bay.

136. Where can the passenger data base be found?

a. Loaded in the cabin network server unit.
b. Only on a paper list in the cockpit for security.
c. Only at the airport of departure.

137. The Cabin Video monitoring system is used....

a. to assist pilots in case of emergencies in determining the structural condition of the cabin/fuselage.

b. to detect unruly passengers.
c. to record behaviour of passengers and cabin crew, and can be used as evidence in legal proceeding.

138. The satellite communication (SATCOM) system is connected to?

a. The open data network.
b. The isolated data network.
c. The In Flight Entertainment system, only.

139. The Electronic Flight Bag (EFB) can be used for?

a. Weight and Balance calculations.
b. Both answers are correct.
c. Determining the maintenance history of the aircraft.

140. A dedicated maintenance laptop using WIFI can be used for?

a. Installing newly released navigation software.
b. Accessing to see and delete data from the Aircraft File Server.
c. Accessing aircraft fault data.