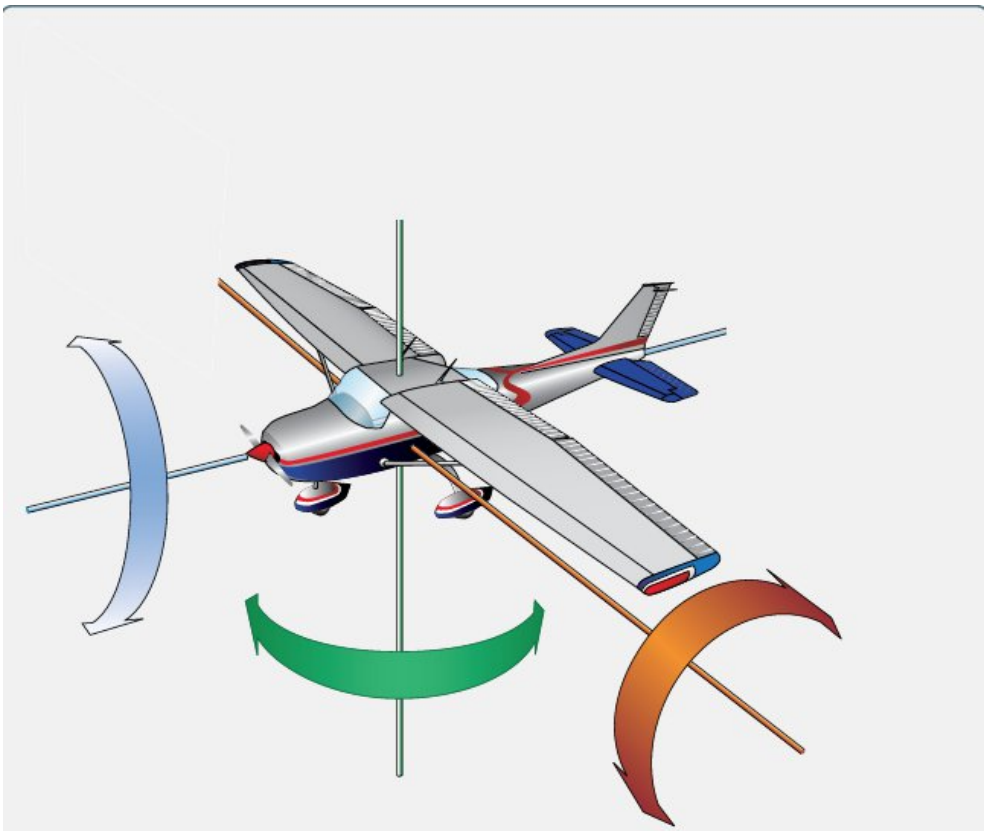
Question block created by wizard

This exam contains 140 questions.

1. Complete the numbered boxes.



Primary Control Surface	Airplane Movement	Axes of Rotation	Type of Stability
Aileron	1	Longitudinal	Lateral
Elevator/ Stabilator	2	Lateral	Longitudinal
Rudder	3	Vertical	Directional

a. 1 Yaw; 2 Roll; 3 Pitch
b. 1 Dive; 2 Climb; 3 Turn
c. 1 Roll; 2 Pitch; 3 Yaw

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

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

3. By high speed the elevons are a combination of....

a. ailerons and the rudder.
b. elevators and the trailing edge.
c. elevators and the ailerons.

4. What has the biggest effect on the speed of sound?

a. Temperature.
b. Humidity.
c. Pressure.

5. What type of wave is a "Bow Wave"?

a. Oblique shock wave.
b. Normal shock wave.
c. Turbulence

6. What is the main disadvantage of wing sweep back?

a. Wingtip stall before the wing roots.
b. Less lift than a straight wing.
c. Not useable on T-tailed aircraft.

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 function of the Static dischargers?

a. They will protect the communication systems against a lightning strike.
b. In case of a static charge they lead the electrical energy off the aircraft.
c. They function as a communication antenna.

9. What is a cantilever wing?

a. A wing supported by struts and ties.
b. A wing attached in the middle.
c. A wing attached at one end only.

10. What is the most widely used assembly method in aircraft construction?

a. Bonding.
b. Solid rivets.
c. Blind rivets.

11. "DINITROL" and "LPS-3" are what kind of surface protection?

a. Phosphate coating.
b. Paint.
c. Water displacing fluid.

12. Buckled skin and torn rivets are indicators of:

a. Structural failure.
b. Deviations in aircraft a-symmetry
c. Bad construction.

13. Where would you find rapid depressurization panels?

a. The wall linings of the cargo hold.
b. The bottom of the passenger cabin side walls.
c. In the pressure bulkheads.

14. The most common used floor material for passenger compartment floors are ....

a. composite material.
b. aluminium reinforced and steel bars.
c. aluminium.

15. The upper wing surface is made of AL-7075 to withstand ....

a. tension loads.
b. compression loads.
c. shear loads.

16. What are rigid fuel tanks usually made of?

a. Light alloy
b. Stainless steel
c. Plastic

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

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

18. Where are the pivot points of the trimmable horizontal stabilizer located?

a. The trimable horizontal stabilizer does not have pivot points.
b. At the front of the tail cone-structure.
c. At the rear of the tail cone-structure.

19. Krueger flaps are a type of:

a. Lift dumping device.
b. Leading edge high lift device.
c. Trailing edge high lift device.

20. Flutter can be reduced by using?

a. Mass balancing.
b. Trim balance tabs.
c. A horn balance.

21. Where on a nacelle would you find acoustic panels?

a. Intake and turbine cowls.
b. Fan cowls and pylon.
c. Intake and exhaust.

22. Which of the following materials is NOT used for firewalls?

a. Titanium.
b. Thermoplastics.
c. Aluminium alloy.

23. During normal stages of flight, the engine bleed air source comes from:

a. The low pressure stage of the compressor.
b. Ram air.
c. The high pressure stage of the compressor.

24. Which of the following statements is **incorrect**?

A turbo compressor....

a. can be switched on and off by the crew.
b. is used on turbo-prop and piston engine.
c. is used as a supplemental use source of bleed air.

25. What is the recommended amount of water vapour in the conditioned air supplied to the cabin?

a. Between 30% and 40%
b. More than 40%
c. Zero

26. To compensate for the discomfort caused by the extraction of water from the air, what is sometimes used on long-haul aircraft?

a. Humidifiers
b. Water injection
c. Water separation

27. Which of the following statements is correct?

a. A vapour cycle machine cannot be used on piston engine aircraft.
b. A vapour cycle machine can be used for pressurization.

c. A vapour cycle machine is used if there is not enough bleed air available.

28. In a double heat exchanger system, which heat exchanger receives cooling first?

a. The secondary main heat exchanger.
b. The primary heat exchanger.
c. They both receive cooling at the same time.

29. What is an advantage of using an recirculation system?

a. It is possible to get more cold air.
b. Less fuel consumption.
c. It can detect a fire in the system.

30. What happens if an air conditioning pack overheats?

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

31. Which of the following modes of pressurization places the highest load demands on the aircraft structure?

a. Constant-differential pressure.
b. Unpressurized.
c. Isobaric mode.

32. What are the basic flight deck indications for pressurization?

a. Cabin altitude, ambient temperature and pressure differential.
b. Aircraft altitude, rate of climb and atmospheric pressure.
c. Cabin altitude, cabin rate of climb and pressure differential.

33. When operating the outflow valve in manual/emergency mode, which motor is used?

a. The DC motor.
b. The AC motor.
c. Both AC and DC motors.

34. A ventilation fan has shut-down due to an overheat condition.

The crew can....

a. not restart the fan in flight. Ground crew must reset the system first.
b. restart the fan after it has cooled down.
c. restart the fan immediately by resetting the control switch to 'off' and 'on' again.

35. What protects the aircraft from over-pressurization?

a. The positive pressure relief valve.
b. Cabin pressure controller.
c. The outflow valve.

36. A bourdon tube is commonly used in which type of instrument?

a. Instruments which measure high pressure.
b. Differential pressure indicators.
c. Very sensitive low pressure instruments.

37. Which of the following instruments is NOT a gyroscopic instrument?

a. Altitude director indicator
b. Slip indicator
c. Turn co-ordinator

38. What is "compass swing"?

a. A mount for a magnetic compass to minimize the "swing" of the compass card.
b. A maintenance task to align a magnetic compass true north.
c. A maintenance task to reduce the deviation error of a magnetic compass.

39. The purpose of an AOA (Angle of Attack) indexer is?

a. To sense the actual AOA outside the aircraft.
b. To provide an AOA indication with coloured symbols during a landing approach.
c. To generate an audio AOA warning during normal flight.

40. The radio altimeter....

a. The radio altitude indication is operational above 25000ft.
b. gives full time altitude information on the altimeter.
c. The radio altitude indication is displayed on the EADI.

41. What is used to measure exhaust gas temperature?

a. Thermocouples.
b. Temperature bulbs.
c. Temperature switches.

42. In a Fail Passive System;

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

43. What is pitot pressure?

a. It is the total pressure inside the aircraft.
b. It is the outside air pressure at the instant of measuring.
c. It is the dynamic pressure of the air due to the forward motion of the aircraft.

44. The Cabin Interphone:

a. enables recorded announcements and boarding music to be broadcast through the PA system.
b. takes care of the communication among maintenance personnel during maintenance activities.
c. allows the cabin crew to communicate with each other and with the flight deck crew.

45. The device that starts emitting its location in the event of a crash is called:

a. an ELT
b. a GPWS
c. a Selcal

46. The system that determines the distance between the aircraft and the runway threshold is called:

a. Marker Beacon system.
b. ADF-system.
c. VHF-navigation system.

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

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

48. What is the nominal voltage of a NiCad battery cell?

a. 1.2 volts.
b. 2 volts.
c. 24 volts.

49. The electrolyte in a NiCd battery is?

a. Lithium based.
b. Alkaline based.
c. Acid based.

50. What is the purpose of a rectifier?

a. Convert the DC output into AC.
b. Control the output voltage of a parallel wound generator.
c. Convert the AC output to DC.

51. What is the dis-advantage of series wound generators?

a. When the aircraft electrical load increases, the output voltage increases.
b. When the aircraft electrical load increases, the output voltage remains the same.
c. When the aircraft electrical load increases, the output current increases.

52. Which of the following systems does not use a constant speed drive?

a. Engine driven alternator.
b. APU alternator.
c. Integrated drive generator (IDG)

53. What type of generator / alternator is used in a variable speed constant frequency system?

a. Brushless alternator.
b. DC alternator.
c. DC generator.

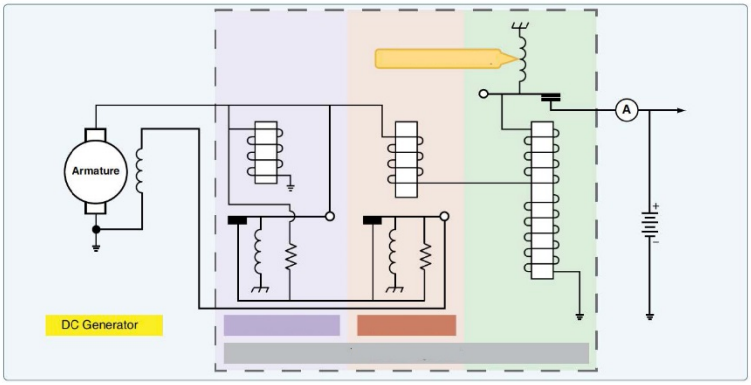
54. In a constant speed motor generator, what powers the generator?

a. An electric motor powered by the battery.
b. An electric motor powered by the RAT generator.
c. A hydraulic motor powered by a hydraulic pump driven by the RAT.

55. Which of the following statements about the ram air turbine is false?

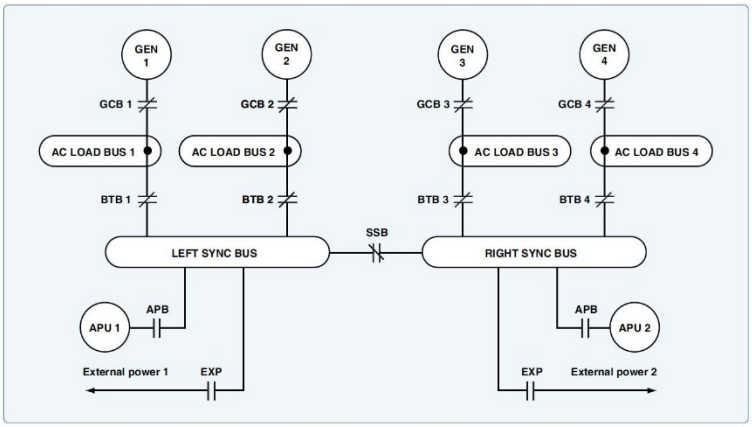
a. The RAT can be deployed manually.
b. The RAT can sometimes also supply hydraulic power.
c. The RAT can deploy automatically on the ground.

56. What type of voltage regulator is shown in the figure below?



a. Carbon pile voltage regulator.
b. Reverse current delay.
c. Three-unit voltage regulator.

57. What type of bus is show in the figure below?



a. Parrallel bus
b. Split Parallel Bus
c. Mergency bus

58. Which of the following statements about current transformers is true?

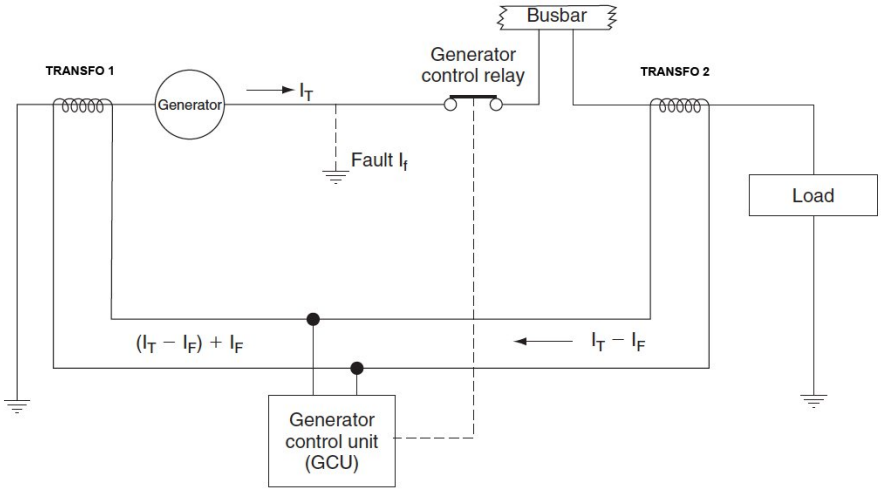
a. The secondary winding should never be left open when in operation.
b. The primary winding should never be left open when in operation.

c. Current transformers always have a square transformer core.

59. What is the primary function of a current transformer in an aircraft?

a. Step-up the current in a circuit.
b. Measure voltage in an electrical circuit.
c. Measure current in an electrical circuit.

60. In the differential protections circuit in the figure below, what type of transformers would be TRANSFO 1 and TRANSFO 2?



a. TRANSFO 1 is a current transformer, TRANSFO 2 is a voltage transformer
b. Both are current transformers
c. Both are voltage transformers

61. When connecting external power, what prevents the application of reverse polarity to a DC powered aircraft?

a. A reverse polarity diode.
b. An irreversible external power connector (fool proof).
c. A reverse current switch.

62. On large aircraft (+44 seats), how is the maximum number of passengers certified?

a. It is the number of evacuated persons (crew and passengers) during a simulated emergency evacuation.
b. It is set by the number of seats possible to install in the cabin respecting the international approved minimum seat pitch of 28".
c. It is the number of evacuated passengers (crew not included) during a simulated emergency evacuation.

63. What is the difference between an escape slide and an escape raft?

a. An escape slide floating on the water, that remains pressurized for at least one hour is also called a raft.
b. Industry and manufacturers terminology. There is no difference.
c. An escape slide that is also designed to be used as a boat, is called an escape raft.

64. What type of gas is used in the inflation cylinder of a life vest?

a. Argon (Ar)
b. Carbon dioxide (CO_2)
c. Nitrogen (N)

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

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

66. How can passengers seats (spacing or pitch) be adjusted on installation?

a. They are installed inside extrusion seat tracks with a 30-inch increment. This is the standard seat pitch requirement of ICAO. The seat itself can swivel 2 inch forward of aft on pivot points.
b. Seats are installed inside seat tracks with a 1-inch increment.
c. Seats are installed inside extrusion seat tracks with a 5-inch increment.

67. What kind of electrical equipment may we expect in a galley?

a. Coffee makers and water heaters.
b. Coffee makers, water heaters, fridge, ovens.
c. Coffee makers, water heaters, micro wave oven, ice makers.

68. How are the cargo containers hold in place when loaded?

a. They are locked to the cargo floor beams with straps and spanners.
b. By special locks who will prevent movement.
c. By special locks who will prevent side movement.

69. What type of smoke detector contains radioactive material?

a. Carbon monoxide detectors.
b. Ionizing smoke detectors.
c. Photo-electric smoke detectors.

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

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

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

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

72. Why is there a strainer installed in the fire bottle discharge valve?

a. To catch any fragment from the bottle.
b. To catch any fragment from the frangible disk.
c. To catch the yellow disk as an indication that the fire bottle is used.

73. Where is the lavatory waste bin fire extinguisher localized?

a. Is usually located above the waste bin.
b. There is no extinguisher in the lavatory.
c. In lavatory ceiling.

74. How is avionics smoke detected?

a. By sampling the air extracted from the avionics compartment racks.
b. By smoke detectors in the avionics boxes.
c. By carbon monoxide detectors in the avionics bay.

75. Pushing the fire test button does not test:

a. Squibs.
b. Indications and warnings.
c. Fire detectors.

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

a. 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.
b. Water-type portable extinguishers can be used for every fire.
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. The elevators control the movement of the aircraft on the .....

a. lateral axis.
b. longitudinal axis.
c. vertical axis.

78. Which of the following control systems for the horizontal stabilizer trim has the highest priority?

a. Mach/speed trim
b. Manual trim
c. Autopilot trim

79. What logic would you expect from an hydraulic operated flight control system in auto pilot function?

a. Flight control computer - electrical input - hydraulic actuator - control surface.
b. Flight control computer - electrical wire - control column - electrical wire - hydraulic actuator - control surface.
c. Flight control computer - electrical wire - hydraulic motor - steel cable - control surface.

80. What are slat track doors?

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

81. To reduce turbulence, what do the spoilers do in speed brake motion?

a. The inboard spoiler panels raise less high than the outboards.
b. All the spoiler panels raise less high than when operated in ground spoilers mode.
c. The inboard spoiler panels remain flush with the wing.

82. In a manual operated control system the control surfaces are moved by ....

a. only pushrods.

b. only cables.
c. cables and pushrods.

83. Dutch roll stability can be artificially increased by a ...

a. pitch damper.
b. roll damper.
c. yaw damper.

84. For the basic rigging procedure the flight control in the cockpit should set in .....

a. any position.
b. neutral position and locked in this position.
c. such a way that the rigging pin can be inserted.

85. A stall warning system will activate:

a. After the stall occurs.
b. When the stall occurs.
c. Before the stall occurs.

86. Where would you find the component shown in the figure below?

a. Behind the engines on the lower wing surface.

b. On the lower wing surface.
c. On the wing leading edge.

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

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

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 the purpose of fuel jettison?

a. To reduce the aircrafts landing weight.
b. To remove the fuel from the trim tanks quickly in case of a severe unbalance of the aircraft.
c. To remove all the fuel from the tanks before an emergency landing, to reduce the fire risk.

90. Why do aircraft have a fuel crossfeed system?

a. To ensure that in all flight phases; the Engine Nr1 receives fuel from RH wing tank and that Engine Nr2 receives fuel from the LH wing tank.
b. Only for ground refueling operations, to fuel the aircraft to both Left and Right tanks from 1 location.
c. To balance the fuel between the Left and Right tank.

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.

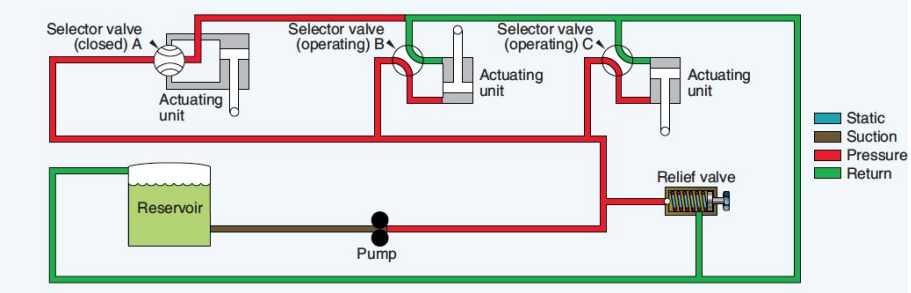
92. Is it possible to refuel the aircraft if the refuel valve has an electrical failure?

a. Yes.
b. No.
c. Only after replacing the valve.

93. Where is also a fuel tank located on aircraft fitted with longitudinal balance fuel systems?

a. Wing tips.
b. Centre wing box.
c. Stabilizer.

94. Which type of hydraulic system is shown?



a. Open centre hydraulic system.
b. Multi pump hydraulic system.
c. Closed centre hydraulic system.

95. What is a function of a hydraulic accumulator?

a. Store (pressurized) hydraulic fluid in case of a leak.
b. To use hydraulic pressure to generate electrical power.
c. To absorb fluctuations in hydraulic pressure,

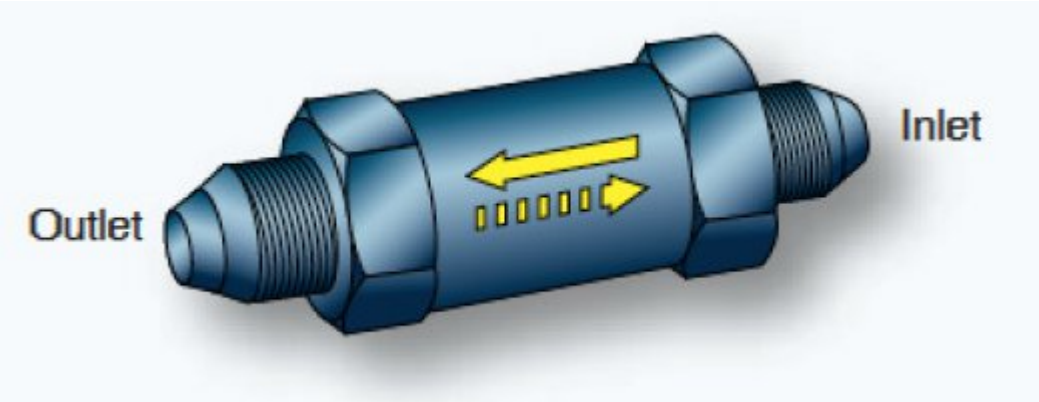
96. When does automatic deployment of the hydraulic ram air turbine occur?

a. Both engines OFF - Aircraft in the air.
b. Both engines OFF - Aircraft in the air - Airspeed more than 80 knots.
c. Hydraulic system pressure at ZERO - Airspeed more than 200 knots.

97. What is the function of a blockage indicator?

a. It shows that the filter is blocked.
b. It shows that the filter is bypassed.
c. It shows that the filters is installed incorrectly.

98. What does the dotted arrow (the arrow pointing to the right) mean in the figure?



a. The direction of restricted flow.
b. The direction of free flow.
c. The direction in which to install the valve (arrow pointing up).

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

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

100. The operation of the serrated rotor ice detector is based on which principle?

a. Increased torque load on the electric drive motor when covered with ice.
b. Ultrasonic vibration of the ice sensing element.
c. Blockage of small moves resulting a change in ram air pressure on a diaphragm.

101. Which system prevents ice formation?

a. Defogging system.
b. De-icing system.
c. Anti-ice system.

102. Which system removes ice formation?

a. De-icing system.
b. Defogging system.
c. Anti-ice system.

103. Rain repellant is normally used:

a. In combination with windscreen wipers at low airspeeds and heavy rain.
b. In combination with windscreen wipers at high altitudes and light rain.
c. Instead of windscreen wipers at low altitudes and heavy rain.

104. To prevent overheating from the drain lines on ground ....

a. drain lines should be covered with special protection covers.
b. the circuit breakers must be pulled.
c. drain lines electrical connector should be disconnected.

105. Why must you always wet the windscreen before operating the wipers?

a. To prevent damage to the windscreen.
b. To prevent unnecessary wear of the wiper blades.
c. To prevent wear on the drive mechanism of the wipers.

106. What is the function of the two safety bars indicated in the figure?

a. They stop the wheels from spinning after gear retraction.
b. They add strength to the door structure.
c. They allow the landing gear to force open the door in case of a hydraulic failure.

107. When the landing gear selector lever is in the off position all hydraulic components are .....

a. connected with the return line.
b. connected with the pressure line.
c. connected with the sump line.

108. In which way can sequence valves in a landing gear system be operated?

a. Electrical and mechanical.
b. Hydraulic and electrical.
c. Mechanical and hydraulic.

109. Which type of wheel rim uses tubeless tyres?

a. Well-based rim.
b. Split hub.
c. Loose and detachable flange rim.

110. Which of the tyres shown would require immediate replacement?

a. 

b. 

c. 

111. In a non-hydraulic shimmy damper, what is used to dampen the vibrations?

a. A spring.
b. Compressed air.
c. A rubber piston.

112. On aircraft with bogie beams (trucks), what is used to detect air/ground?

a. Truck tilt switches.
b. Weight-on-wheel switched.
c. Squat switches.

113. Lights fitted with a dual filament are used as:

a. Landing light and runway turn-off light.
b. Runway turn-off light and engine scan light.
c. Landing light and taxi light.

114. Who controls the 'no smoking' and 'fasten seat belts ' lights?

a. Flight attendant.
b. Pilot.
c. Passenger.

115. The external emergency lights are used for:

a. Illuminating the area around the aircraft to help rescue workers.
b. Identifying the entry doors to help rescue workers locate them.
c. Illuminating the escape slides.

116. Oxygen for the flight crew of commercial aircraft comes in which form?

a. Gaseous oxygen.
b. Chemical oxygen generators.

c. Liquid oxygen.

117. In which type of aircraft is liquid oxygen used?

a. Most large passenger aircraft.
b. Military aircraft.
c. Aircraft flying at very high altitudes.

118. Is it possible to regulate the amount of oxygen from a chemical oxygen generator?

a. Only the crew.
b. No.
c. Yes.

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

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

120. What is a low pressure pneumatic system used for?

a. Power the landing gear.
b. Power the flaps.
c. Power the gyro instruments.

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

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

122. Which systems are NOT used for duct leak detection?

a. Thermal switches.
b. Thermocouples.
c. Manifold failure loops.

123. Which probe is heated by hot bleed air?

a. Ice detection probe.
b. Angle of attack probe.

c. Total air temperature probe.

124. An aircraft fitted with 2 potable water pumps will use the pumps as follows:

a. Both pumps work together.
b. One pump is active, the other standby.
c. One pump services the forward cabin, the other the aft cabin.

125. Which of the following statements is true:

a. Fumes from toilet waste tanks do not affect the structure .
b. Composite materials are used to reduce the chance of corrosion damage.
c. Toilet waste does not pose a danger to the aircraft structure.

126. In a 3-channel system, what happens if the command channels fail?

a. The complete system shut-down.
b. The monitor channel takes over.
c. The stand-by channel takeover.

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

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

128. Who can use the flight deck printer?
(1) Pilots; (2) Ground engineers; (3) Cabin crew

a. 1 + 2 + 3
b. 1 + 3
c. 1 + 2

129. During hard landing, what determines the degree of how hard the landing was?

a. The aircraft speed on touch down.
b. How much "Gs" were encountered.
c. The weight of the aircraft.

130. In an aircraft which has Integrated Modular Avionics.

a. One "Black" box cover one functionality.
b. Each functionality is split in two dedicated 'black' boxes for redundancy
c. One "black" box hosts multiple application / functionalities.

131. One of the main advantages of Integrated Modular Avionics (IMA) is?

a. More computers on board, which result in more system automation.
b. Less computers with more applications on board, which result in weight savings.
c. More computers on board, which result in faster data communication.

132. Three major elements of the common core system are:

a. Computing Resource Cabinet, RJ45 connector network, remote data concentrators.
b. Computing Resource Cabinet, Arinc 429 Network, Remote Data concentrators.
c. Computing Resource Cabinet Arinc 664 network, Remote data concentrators.

133. Airborne electrical AFDX cables are connected with:

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

134. Where is a passenger control unit used for?

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

135. Cabin surveillance and cabin video monitoring can be displayed in the cockpit on the....

a. electronic flight bag.
b. electronic flight instruments system.
c. multipurpose control display unit.

136. When a modern aircraft is on the ground and parked at a gate. The InFlight Entertainment (IFE) system can receive and transmit data, using?

a. An AFDX cable connection
b. WIFI
c. HF Radio

137. The Cockpit Door Surveillance System is?

a. used to assist the air-bridge operator to align the air-bridge with the cockpit door.
b. a system to assist the flight crew to identify a person requesting access to the flight-deck.
c. A synoptic page, indicating if all doors are closed, meaning ready for flight.

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

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

139. Where is the cockpit electronic flight bag used for?

a. To keep navigational charts and airport diagrams.
b. To keep the flight crew operating manual.
c. Top keep both, navigational charts and airport diagrams and the flight crew operating manual.

140. Wireless fidelity (wifi) is used for:

a. aircraft non-critical data
b. flight critical data
c. only for maintenance purposes