Question block created by wizard

This exam contains 96 questions.

1. A full operational autopilot system will ensure that

- o (a) the automatic pilot will automatically cause the aircraft to overshoot if any failure is detected.
- • (b) the aircraft will continue its automatic landing in the event of a single failure.
- o (c) the automatic pilot will automatically disengage whenever any failure is detected.

If choice b is selected set score to 1.

2. An automatic pilot is a system which can ensure the functions of:

- • (a) Piloting and guidance of an aircraft in both the horizontal and vertical planes.
- o (b) Piloting from take-off to landing without any action from the pilot.
- o (c) Navigation.

If choice a is selected set score to 1.

3. The command bars of a flight director are generally represented on an:

- o (a) HSI (Horizontal Situation Indicator).
- o (b) RMI (Radio Magnetic Indicator).
- • (c) ADI (Attitude Director Indicator).

If choice c is selected set score to 1.

4. Coordinated autopilot turns are achieved by

- • (a) yaw rate gyro signals.
- o (b) aileron to elevator crossfeed.
- o (c) aileron to rudder crossfeed.

If choice a is selected set score to 1.

5. The GA mode is usually initiated by....

- o (a) making a selection on the mode control panel.
- o (b) pressing a button on the autopilot control panel.
- • (c) pressing a button on thrust levers.

If choice c is selected set score to 1.

6. Which modes are incompatible?

- (a) G/S + ALTITUDE HOLD

o (b) HDG + V/S HOLD
o (c) VOR + ALTITUDE HOLD

If choice a is selected set score to 1.

7. What is the controlling factor in the automatic flare mode?

o (a) Decision height.
o (b) Localizer signal.

- (c) Radio altimeter.

If choice c is selected set score to 1.

8. With airspeed hold engaged, Flight Director engaged, a down command means your speed....

- (a) has decreased.

o (b) keeps the same.
o (c) has increased.

If choice a is selected set score to 1.

9. Which airplane behavior will be corrected by a yaw damper?

o (a) Spiral dive.
o (b) Tuck under.

- (c) Dutch roll.

If choice c is selected set score to 1.

10. An aircraft has yaw damping included in its auto stabilisation system. An essential requirement of such system is:

o (a) INS inputs to the CADC.
o (b) series connected servo motors.

- (c) a three axis autopilot system.

If choice c is selected set score to 1.

11. A dual-dual stability augmentation system:

o (a) ensures that a lane failure results in that the actuators remains at their position when the failure occured.

- (b) can survive the first failure and reverts to manual control in the event of a second failure.

o (c) disengages when a failure occurs and the system reverts to manual control.

If choice b is selected set score to 1.

12. A duplex SAS (Stability Augmentation System) architecture ensures that a lane failure results in....

o (a) a setting which limits the movement of the two lane actuators.
o (b) a passive failure with the system reverting to manual operation.

- (c) only a passive failure, that is, the output of the two lane actuators remains at the position it was in at the time of failure.

If choice c is selected set score to 1.

13. The purpose of an airplane automatic trim system is to trim out the hinge moment of the :

- (a) elevator(s).

o (b) elevator(s), rudder(s) and ailerons.
o (c) elevator(s) and rudder(s).

If choice a is selected set score to 1.

14. Automatic trim is used to....

- (a) maintain level flight.

o (b) prevent loads on the elevator trims.
o (c) allow full authority to be regained by the aileron.

If choice a is selected set score to 1.

15. Automatic mach trim is functional in the....

o (a) pitch channel only with the autopilot disengaged.
o (b) pitch and roll channel with the autopilot engaged.

- (c) pitch channel only with the autopilot engaged.

If choice c is selected set score to 1.

16. Central Air Data Computers (CADC's) transmit data concerning

o (a) airspeed and altitude only.
o (b) airspeed, altitude and decision height.

- (c) airspeed, altitude and Mach number.

If choice c is selected set score to 1.

17. The flight director is displayed on the....

- o (a) EHSI
- • (b) EADI
- o (c) bearing indicator

If choice b is selected set score to 1.

18. When the bank angle limit is applied to the autopilot , it means

- o (a) the max aileron angle that can be commanded.
- • (b) the max roll angle that can be demanded by the autopilot.
- o (c) maximum rudder deflection.

If choice b is selected set score to 1.

19. The take-off of an aircraft is....

- o (a) not possible with go-around (GA) set on the trust mode control panel (TMCP).
- o (b) flown automatically.
- • (c) flown manually.

If choice c is selected set score to 1.

20. When the altitude select mode is engaged on a jet transport airplane equipped with autopilot (AP) and auto-throttle (ATS) systems the....

- o (a) true airspeed (TAS) is maintained constant by the auto-throttle system.
- • (b) indicated airspeed (IAS) is maintained constant by the autopilot by means of elevator.
- o (c) calibrated airspeed (CAS) is maintained constant by the autopilot by means of elevator.

If choice b is selected set score to 1.

21. At the missed approach point the TOGA switch on the throttles is depressed. Which of the following statements are correct:

1. Pilot selects maximum power.
2. Auto-throttle selects GA power.
3. Aircraft automatically cleans up.
4. Auto-pilot flies the GA.
5. Pilot flies the GA manoeuvre

The combination regrouping all the correct statements is:

- (a) 1 and 5
- (b) 2 and 4
- (c) 1 and 4

If choice b is selected set score to 1.

22. Auto-throttle engaged mode can be checked by the pilot, using:

- (a) primary flight display.
- (b) position of throttles.
- (c) thrust control computer.

If choice a is selected set score to 1.

23. During a CAT 2 ILS automatic approach, the source for altitude information is the

- (a) mode comparator sensor.
- (b) radar altimeter which becomes effective below about 2500 feet.
- (c) basic altitude capsule stack.

If choice b is selected set score to 1.

24. An aircraft will capture the auto land system at

- (a) 2500 ft.
- (b) 1500 ft.
- (c) 3500 ft.

If choice b is selected set score to 1.

25. In triplex autoland system failure of one channel will

- (a) disconnect the failure channel and continue with a manual approach.
- (b) disconnect all channels.
- (c) disconnect the failure channel and continue autoland approach.

If choice c is selected set score to 1.

26. The special "Ident" feature (SPI-code)....

- o (a) is to confirm SELCAL identity.
- • (b) allows ATC to confirm aircraft identity.
- o (c) is to confirm TCAS identity.

If choice b is selected set score to 1.

27. The ATC altitude information is relative to....

- • (a) 1013.2 mbar level.
- o (b) 10.92 mbar level.
- o (c) 29.92 bar level.

If choice a is selected set score to 1.

28. The principle of the TCAS (Traffic Collision Avoidance Systems) is based on the use of :

- • (a) transponders fitted in the aircraft.
- o (b) airborne weather radar system.
- o (c) air traffic control radar systems.

If choice a is selected set score to 1.

29. A "resolution advisory" (RA) is represented on the display system of the TCAS 2 (Traffic Collision Avoidance System) by a....

- o (a) red full circle.
- o (b) blue or white full lozenge.
- • (c) solid red square.

If choice c is selected set score to 1.

30. What does the Radar contour button do?

- o (a) Alter the video amplifier.
- • (b) Alter the display presentation.
- o (c) Alter the transmitter power.

If choice b is selected set score to 1.

31. During the approach, a crew reads on the radio altimeter the value of 650ft. This is an indication of the true height of the....

- o (a) aircraft with regard to the runway.
- o (b) aircraft with regard to the ground at a given barometric pressure.
- • (c) lowest wheels with regard to the ground at any time.

If choice c is selected set score to 1.

32. A Radar altimeter system measures altitude....

- o (a) in relation to sea level.
- • (b) above terrain.
- o (c) in combination with GPS-satelites

If choice b is selected set score to 1.

33. An ARINC 429 bus uses

- o (a) two bi-directional twin sheathed and earthed wires.
- • (b) a twisted shielded pair of wires.
- o (c) a single tin wire cable for each transmitter.

If choice b is selected set score to 1.

34. MLS installations notified for operation, unless otherwise stated, provide azimuth coverage of....

- • (a) +or - 40° about the nominal courseline out to a range of 20 NM.
- o (b) +or - 20° about the nominal courseline out to a range of 30 NM.
- o (c) +or - 20° about the nominal courseline out to a range of 20 NM.

If choice a is selected set score to 1.

35. In which frequency band does the Microwave Landing System (MLS) operate?

- o (a) UHF
- o (b) VHF
- • (c) SHF

If choice c is selected set score to 1.

36. Hyperbolic propagation errors are....

- o (a) the greatest above water.

- (b) the greatest above land.

o (c) not present in this type of navigation.

If choice b is selected set score to 1.

37. The best fix for hyperbolic navigation is when the lines of position (LOP) intersect....

- (a) at an angle of 90°.

o (b) at the greatest curve.
o (c) in a diagonal angle.

If choice a is selected set score to 1.

38. The Doppler Navigation System is based on....

o (a) pulse shift transmission.
o (b) radio waves refraction in the ionosphere.

- (c) radar principles using frequency shift.

If choice c is selected set score to 1.

39. Due to 'Doppler' effect an apparent decrease in the transmitted frequency, which is proportional to the transmitter's velocity, will occur when the transmitter....

- (a) moves away from the reciever.

o (b) and receiver move towards each other.
o (c) moves toward the reciever.

If choice a is selected set score to 1.

40. The capacity of the emergency batteries are capable of providing emergency lighting for a period of at least …

- (a) 10 minutes.

o (b) 1 hour.
o (c) 1 minute.

If choice a is selected set score to 1.

41. An aircraft with two passenger decks with more than 100 seats per deck is equiped with....

o (a) 3 megaphones.
o (b) 1 megaphone.

- (c) 4 megaphones.

If choice c is selected set score to 1.

42. Which priority do announcements from the flightdeck have?

o (a) Priority 2.

• (b) Priority 1.

o (c) Priority 5.

If choice b is selected set score to 1.

43. The means of interacting with cabin management computers may involve using remote control devices.

What do these remote devices use for communication?

o (a) VLF.
o (b) Ethernet.

• (c) Either infrared (IR) or radio frequency (RF).

If choice c is selected set score to 1.

44. How does the IFES (In-Flight Entertainent System) send audio and video signals?

o (a) A standard 1 Gbit/s fast Ethernet LAN.
o (b) Fibre optics.

• (c) A standard 100 Mbit/s fast Ethernet LAN.

If choice c is selected set score to 1.

45. Anti-servo tabs....

• (a) move in the same direction as the control surface.

o (b) move in the opposite direction to the control surface.
o (c) are directly connected to the control column.

If choice a is selected set score to 1.

46. The purpose of a trim tab (device) is to....

o (a) trim the airplane at low airspeed.

• (b) reduce or to cancel control forces.

o (c) to assist in steering commands.

If choice b is selected set score to 1.

47. A Fowler flap....

- o (a) decreases wing area.
- o (b) does not change the wing area.
- • (c) increases wing area.

If choice c is selected set score to 1.

48. An artificial feel system is required for....

- • (a) power operated control systems.
- o (b) power assisted control systems.
- o (c) direct cable systems.

If choice a is selected set score to 1.

49. A yaw damper is....

- o (a) an elevator augmentor.
- o (b) an elevator augmentor to avoid nose-down effect at speeds greater than M = 0.8.
- • (c) a rudder damper designed to avoid the “dutch roll”.

If choice c is selected set score to 1.

50. How can flutter be reduced?

- o (a) A horn balance.
- o (b) Servo tabs.
- • (c) Mass balancing.

If choice c is selected set score to 1.

51. What is the effect of a single failure of a fly-by-wire system?

- • (a) It has no effect on the aircraft's operation.
- o (b) It will reduce the operational height and speed.
- o (c) It will limit the flight profile.

If choice a is selected set score to 1.

52. The advantages of fly-by-wire control are:

1. reduction of the electric and hydraulic power required to operate the control surfaces
2. lesser sensitivity to lightning strike
3. direct and indirect weight saving through simplification of systems
4. immunity to different interfering signals
5. improvement of piloting quality throughout the flight envelope

The combination regrouping all the correct statements is:

- o (a) 1, 4 and 5
- o (b) 2 and 3
- • (c) 3 and 5

If choice c is selected set score to 1.

53. Which of the following instruments are flight instruments?

1. Air speed indicator.
2. Altimeter.
3. Gyro horizon.
4. Global navigation satellite system.
5. Inertial reference system.

- o (a) 1, 3 and 5.
- • (b) 1, 2 and 3.
- o (c) 3, 4 and 5.

If choice b is selected set score to 1.

54. In a mechanical oil pressure gauge the sensing element is:

- o (a) a helical bimetallic spring.
- o (b) a liquid capillary.
- • (c) a bourdon tube.

If choice c is selected set score to 1.

55. What will result if the instrument static pressure line becomes disconnected inside a pressurized cabin during cruise flight?

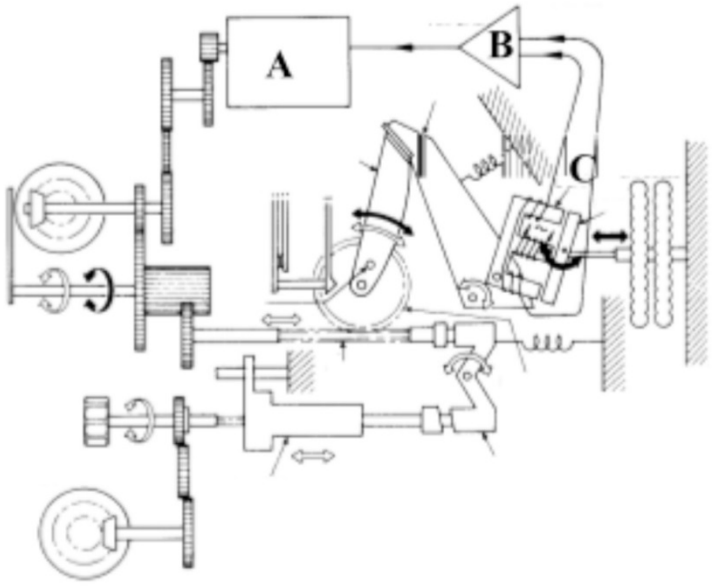
- o (a) The altimeter and airspeed indicator will both read high.

- (b) The altimeter and airspeed indicator will both read low.

o (c) The altimeter will read low and the airspeed indicator will read high.

If choice b is selected set score to 1.

56. In the next figure of a servo altimeter the components labeled A, B and C in order are:



- (a) two way motor - amplifier - inductive pick-off

o (b) torque motor - amplifier - transducer
o (c) torque motor - inductive pick-off - amplifier

If choice a is selected set score to 1.

57. The VSI-case is fed with .(1)..... pressure and the capsule with ..(2)..... pressure.

o (a) (1) static - (2) pitot
o (b) (1) pitot - (2) static

- (c) (1) static - (2) static

If choice c is selected set score to 1.

58. A transport airplane has to be equipped with an altitude warning device. This system will warn the crew about :

1. getting close to the preselected altitude, during both climb and descent;
2. getting close to the preselected altitude, during climb only;
3. the loss of altitude during take-off or missed approach;
4. a wrong landing configuration;
5. a variation higher or lower than a preselected altitude.

The combination regrouping the correct statements is:

- o (a) 2
- o (b) 1, 3 and 4.
- • (c) 1 and 5

If choice c is selected set score to 1.

59. An Air Data Computer (ADC) :

- o (a) Measures position error in the static system and transmits this information to ATC to provide correct altitude reporting.
- o (b) Is an auxiliary system that provides altitude information in the event that the static source is blocked.
- • (c) Transforms air data measurements into electric impulses driving servo motors in instruments.

If choice c is selected set score to 1.

60. When OAT increases what happens to a helicopter operating ceiling?

- o (a) Increase.
- o (b) No effect.
- • (c) Decrease.

If choice c is selected set score to 1.

61. A float fuel gauge system is....

- o (a) adjusted when tanks are full.
- o (b) cannot be adjusted.
- • (c) adjusted when tanks are empty.

If choice c is selected set score to 1.

62. Increasing the angular momentum of a gyro rotor will:

o (a) have no substantial effect on gyroscopic rigidity.

• (b) increase the gyroscopic rigidity.

o (c) decrease the gyroscopic rigidity.

If choice b is selected set score to 1.

63. The acceleration errors of an electrically-driven attitude indicator are reduced compared to those of a vacuum driven one by:

• (a) inclination of the gyro spin axis.

o (b) reducing the erection rate of the gyro assembly.
o (c) spinning the electrical rotor slower.

If choice a is selected set score to 1.

64. The purpose of the slaving torque motor is:

o (a) To ensure that the gyro wheel maintains sufficient speed to stay rigid in space.
o (b) To send heading information to the compass card in the heading indicator.

• (c) To produce a precessive force in order to align the gyro with the earth's magnetic field.

If choice c is selected set score to 1.

65. The Ground Proximity Warning systems mode 3 is activated when

o (a) The aircraft is flying into rising terrain.

• (b) An excessive height loss is experienced after take-off during go-around.

o (c) The barometric descent rate is excessive with respect to the aircraft height above the terrain.

If choice b is selected set score to 1.

66. Hard iron is the name given to a metal which:

o (a) Is difficult to magnetize and loses its magnetism easily.

• (b) Is difficult to magnetize and retains its magnetism.

o (c) Is easy to magnetize and loses its magnetism easily.

If choice b is selected set score to 1.

67. A FDR fitted to an aircraft of over 5700kgs after April 98 must record for:

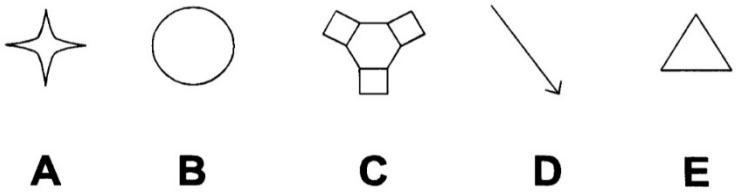
o (a) 60 minutes.

• (b) 25 hours.

o (c) 30 minutes.

If choice b is selected set score to 1.

68. The symbols A, C and E are best described respectively as: (See the figure)



o (a) (A) off route waypoint - (C) navigation aid - (E) a navigation point making up selected route.

• (b) (A) active waypoint aircraft currently navigating to - (C) navigation aid - (E) off route waypoint.

o (c) (A) next waypoint - (C) navigation aid - (E) airport.

If choice b is selected set score to 1.

69. The level of alert for condtions that require immediate flight crew awareness and immediate flight crew response is …… Loss of cabin pressure or an engine fire are typical examples.

o (a) a caution.

• (b) a warning.

o (c) alert message.

If choice b is selected set score to 1.

70. The angle of attack transmitter provides an electric signal varying with:
1. the angular position of a wind vane.
2. the deviation between the airplane flight attitude and the path calculated by the inertial unit.
3. a probe differential pressure depending on the variation of the angle of attack.

The combination regrouping all the correct statements is:

- o (a) 2 and 3.
- o (b) 1 and 2.
- • (c) 1 and 3.

If choice c is selected set score to 1.

71. A vibration meter measures the....

- • (a) amplitude at a given frequency.
- o (b) frequency in Hz.
- o (c) period in seconds.

If choice a is selected set score to 1.

72. Information from a sensor to a display is provided electronically to the processing unit, commonly called a …..

- o (a) video card.
- o (b) video graphics card.
- • (c) symbol generator.

If choice c is selected set score to 1.

73. When a ….. is displayed, the aircraft is considered unserviceable (only specific failures are permitted to exist as stated in the MEL).

- o (a) Fault Code.
- • (b) Status Message.
- o (c) Maintenance Message.

If choice b is selected set score to 1.

74. Access to the Central Maintenance Computers is through ….

- o (a) a control box.

- (b) the line select keys on the CDU.

o (c) a press-to-test switch on the computer itself.

If choice b is selected set score to 1.

75. A FMS navigation database is updated

o (a) once a month.

- (b) every 28 days.

o (c) at the operators request.

If choice b is selected set score to 1.

76. An Electronic Library System consists of :

1. a LCD.

2. an optical disk drive.

3. a printer.

4. a workstation platform.

5. capacitive touch screen overlay.

6. A keyboard.

o (a) 1, 2, 3 and 6.
o (b) 1, 3, 4 and 5.

- (c) 1, 2, 3, 4 and 5.

If choice c is selected set score to 1.

77. The printer used in the cockpit is....

o (a) a laser printer.

- (b) a dot matrix printer.

o (c) an inktjet printer.

If choice b is selected set score to 1.

78. Which system can also be used to monitor the aircraft's structure and thus identify any faults before they cause catastrophic failure.

- (a) the Flight Data Recorder.

o (b) the CDU (Control Display Unit).
o (c) the Electronic library system.

If choice a is selected set score to 1.

79. Maintenance Information at an out-station can be read from the....

o (a) FMS (Flight Management system).
o (b) Electronic library system.

- (c) CDU (Control Display Unit).

If choice c is selected set score to 1.

80. What type of valve is the toilet tank drain valve?

o (a) Not spring loaded.

- (b) Spring loaded closed.

o (c) Spring loaded open.

If choice b is selected set score to 1.

81. An airborne Ethernet electrical cable (AFDX) is

o (a) equipped with 4 pins RJ45 connectors.
o (b) equipped with 8 pins RJ45 connectors.

- (c) equipped with 4 pins Quadrax connectors.

If choice c is selected set score to 1.

82. The ARINC 664 Ethernet has a transport rate of …

- (a) 100 megabits per second.

o (b) 100 gigabits per second.
o (c) 100 kilobits per second.

If choice a is selected set score to 1.

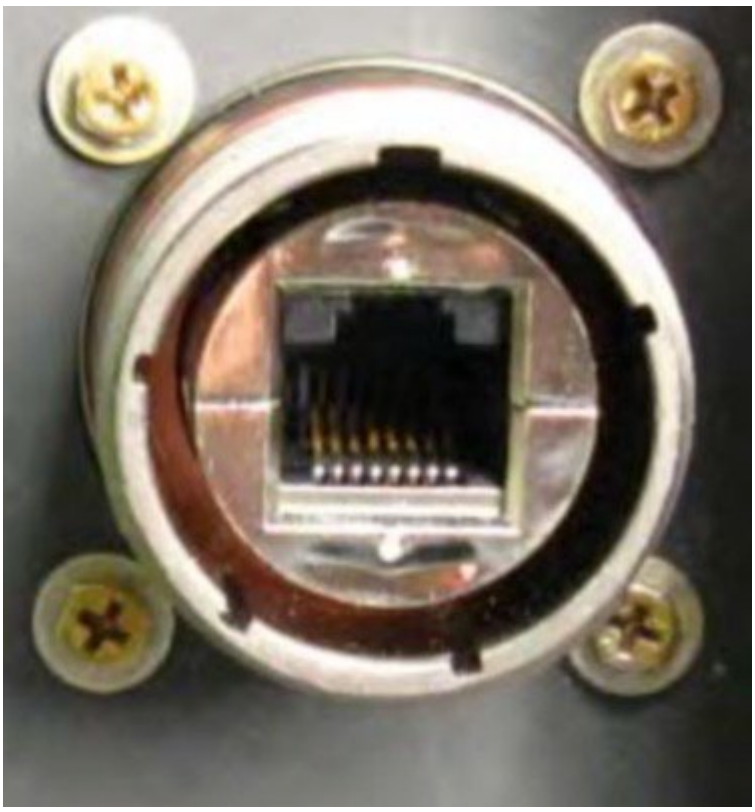
83. Airplane system data not critical to flight are connected to the ….. In the Core Network System.

o (a) Crew Wireless LAN Unit (CWLU).
o (b) Common Data Network (CDN).

- (c) Open Data Network (ODN).

If choice c is selected set score to 1.

84. This is a(n) …. (See the figure)



- o (a) Quadrax port.
- o (b) RJ45 port.

- (c) Ethernet port.

If choice c is selected set score to 1.

85. "Some LRMs (Line Replaceable Modules) from the Integrated Modular Avionics communicate with each other through the ADCN (Avionics Data Communication Network) by the means of communication technology developed from a non-aeronautical standard."

This technology is called ….

- o (a) Controller Pilot Data Link communications (CPDLC).

- (b) AFDX (Avionics Full Duplex Switched Ethernet).

- o (c) Automatic Dependent Surveillance Broadcast (ADS-B).

If choice b is selected set score to 1.

86. The In-seat audio and video channels and volume can be selected and adjusted by the passenger using the....

- o (a) IFES SC (In-flight Entertainment System System Controller).
- • (b) IFES PCU (passenger control unit).
- o (c) IFES AMCU (Advanced Master Control Unit).

If choice b is selected set score to 1.

87. Which discretes provides the PSEU (Proximity Switch Electronics Unit) to the IFES SC (In-Flight Entertainment System Controller)?

- • (a) Air/ground discrete; parking brake discrete; start take-off roll discrete; nose landing gear discrete.
- o (b) Air/ground discrete; IRS (Inertial Reference System) position discrete; ADC (Air Data Computer) discretes (Airspeed, Ground speed, Mach number, altitude).
- o (c) Air/ground discrete; air speed discrete; altitude discrete, GPS position discrete.

If choice a is selected set score to 1.

88. The inflight entertainment equipment is connected to …

- o (a) its own network system, completely isolated from the Core network system.
- o (b) the IDN (Isolated Data Network) of the Core network system.
- • (c) the ODN (Open Data Network) of the Core network system.

If choice c is selected set score to 1.

89. The external communication (IFE) system provides communication with the aircraft while grounded through …

- o (a) a cell modem component and an antenna located in the aircraft.
- o (b) an ethernet connection in the aircraft.
- • (c) a cell modem component and a terminal receiving station..

If choice c is selected set score to 1.

90. Which unit serves as the direct interface with the air-to-ground narrow band or broadband equipment and provides extensive audio, video and cached web content?

- o (a) The ADB (Area Distribution Box).
- • (b) The FS (file server).
- o (c) The AMCU (Advanced Master Control Unit).

If choice b is selected set score to 1.

91. Which item provides the aircraft crew access to configuration of the IFES, the capability of storing data, and access to passenger database?

- o (a) the IFES Advanced Master Control Unit (AMCU).
- o (b) the IFES File Server.
- • (c) the IFES Crew Panel.

If choice c is selected set score to 1.

92. Which part of the avionics domain of the network server system gives a single way of communication, preventing malicious data coming going to the avionics domain?

- o (a) secure communication interface.
- • (b) open world diode.
- o (c) ethernet gateway module.

If choice b is selected set score to 1.

93. Which system enables aircraft to be accurately tracked by air traffic controllers and other pilots without the need for conventional radar?

- o (a) FANS (Future Air Navigation System).
- o (b) Mode S transponder.
- • (c) ADS-B (Automatic Dependent Surveillance Broadcast).

If choice c is selected set score to 1.

94. Recording capability of aircraft parameters is part of the …

- o (a) Communication & Cabin Domain.
- • (b) Avionics Domain.
- o (c) Flight Operations Domain.

If choice b is selected set score to 1.

95. What will be shown when the fault tolerant system has a fault but has not generated a caution or a warning on the flight deck?

- o (a) A specific status message.
- • (b) A maintenance memo.
- o (c) A scheduled fault message.

If choice b is selected set score to 1.

96. Which communication system let the flight crew request and obtain information about meteorological parameters (weather, wind, visibility, clouds, ...)?

- o (a) FANS (Future Air Navigation Systems).
- • (b) ATIS (Automatic Terminal Information Systen).
- o (c) Automatic Dependent Surveillance Broadcast

If choice b is selected set score to 1.

If assessment score is 75% to 100% Pass
If assessment score is 0% to 74% Fail