Question block created by wizard

This exam contains 96 questions.

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

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

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

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

3. On an autopilot coupled approach, GO AROUND mode is engaged:

a. By the pilot selecting G.A. mode on the flight mode control panel.
b. By the pilot pushing a button located on the throttles.
c. If the aircraft reaches the decision height selected on the radio altimeter at a higher speed than the one selected.

4. Coordinated autopilot turns are achieved by

a. aileron to elevator crossfeed.
b. yaw rate gyro signals.
c. aileron to rudder crossfeed.

5. Which modes are incompatible?

a. HDG + V/S HOLD
b. G/S + ALTITUDE HOLD
c. VOR + ALTITUDE HOLD

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

a. Localizer signal.
b. Decision height.
c. Radio altimeter.

7. In the FMS vertical navigation (V NAV) climb mode the throttles are used for

a. correction minor speed deviations.
b. maintaining a computed EPR.
c. controlling to a maximum thrust.

8. Overshoot or go-around mode can be initiated

a. at any time.
b. at any time after autoland has been engaged.
c. only when the auto-approach mode is activated.

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

a. Spiral dive.
b. Tuck under.
c. Dutch roll.

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

a. a three axis autopilot system.
b. series connected servo motors.
c. INS inputs to the CADC.

11. A dual-dual stability augmentation system:

a. disengages when a failure occurs and the system reverts to manual control.
b. can survive the first failure and reverts to manual control in the event of a second failure.
c. ensures that a lane failure results in that the actuators remains at their position when the failure occured.

12. A Stability Augmentation System (SAS) is a rate damping system that will:

a. Gives good control and handling characteristics.
b. All of the answers.
c. Stop unwanted rate of motion from developing.

13. An automatic pitch trim system employs a separate pitch trim servomotor which operates....

a. in series with the autopilot pitch control servo.
b. as a stand-alone system.
c. in parallel with the autopilot pitch control servo.

14. Automatic trim is used to....

a. allow full authority to be regained by the aileron.
b. prevent loads on the elevator trims.
c. maintain level flight.

15. The purpose of Automatic Trim function in autopilot is to....

a. control elevator trim tab in order to relieve elevator load.
b. trim throttles to obtain smooth engine power variation.
c. tell the pilot when elevator trimming is required.

16. Mode "Localizer ARM" active on Flight Director means:

a. Coupling has occurred and system provides control data to capture the centerline.
b. System is armed for localizer approach and coupling will occur upon capturing center line.
c. Localizer is armed and coupling will occur when flag warning disappears.

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

a. the max aileron angle that can be commanded.
b. maximum rudder deflection.
c. the max roll angle that can be demanded by the autopilot.

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

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

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

a. airspeed and altitude only.
b. airspeed, altitude and decision height.
c. airspeed, altitude and Mach number.

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

a. EADI
b. EHSI
c. bearing indicator

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

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

22. With autothrottle selected in the SPEED MODE compatible autopilot modes are

a. VOR ARM and HDG HOLD.
b. IAS HOLD and ALT ARM.
c. V/S and ALT ARM.

23. When an automatic landing is interrupted by a go-around:
1. The auto throttle reacts immediately upon the pilot action on TO/GA switch in order to recover the maximum thrust.
2. The autopilot monitors the climb and rotation of the airplane.
3. The autopilot retracts the landing gear and reduces the flap deflection in order to reduce the drag.
4. The pilot performs the climb and the rotation of the airplane.
5. The pilot retracts the landing gear and reduces the flap deflection in order to reduce the drag.

The combination regrouping all the correct statements is:

a. 1, 2, 3.
b. 1, 3, 4.
c. 1, 2, 5.

24. An aircraft will capture the auto land system at

a. 2500 ft.
b. 1500 ft.
c. 3500 ft.

25. Overshoot or go-around mode can be initiated....

a. below 2000 feet radio altitude.
b. at any time.
c. only when autopilot is engaged.

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

a. is to confirm SELCAL identity.
b. allows ATC to confirm aircraft identity.
c. is to confirm TCAS identity.

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

a. 10.92 mbar level.
b. 1013.2 mbar level.
c. 29.92 bar level.

28. The TCAS 2 (Traffic Collision Avoidance System) provides :

1. traffic information (TA: Traffic Advisory)

2. horizontal resolution (RA: Resolution Advisory)

3. vertical resolution (RA: Resolution Advisory)

4. ground proximity warning

The combination regrouping all the correct statements is:

a. 1 and 2
b. 1 and 3
c. 1, 2, 3 and 4.

29. A "TCAS II" (Traffic Collision Avoidance System) provides:

a. the intruder relative position and possibly an indication of a collision avoidance manoeuvre within the horizontal plane only.
b. a simple intruding airplane proximity warning..
c. the intruder relative position and possibly an indication of a collision avoidance manoeuvre within the vertical plane only.

30. Weather Radar returns show areas of precipitation in the following colors:

a. Green, Magenta, Blue and Red.
b. Green, Orange, Yellow and Red.
c. Green, Yellow, Red and Magenta.

31. A radio altimeter can be defined as a....

a. ground radio aid used to measure the true altitude of the aircraft.
b. self-contained on-board aid used to measure the true height of the aircraft.
c. self-contained on-board aid used to calculate the barometric altitude of the aircraft.

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

a. lowest wheels with regard to the ground at any time.
b. aircraft with regard to the ground at a given barometric pressure.
c. aircraft with regard to the runway.

33. ARINC 429 SDI word format is at bits

a. 1 - 8
b. 9 - 10
c. 31 - 32

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

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

35. Which one of the following methods is used by a Microwave Landing System (MLS) to indicate distance from the runway threshold?

a. Timing the interval between the reception of sequential secondary radar pulses from the MLS station to the aircraft.
b. Measurement of the frequency shift between the MLS azimuth and elevation transmissions.
c. A DME co-located with the MLS transmitters.

36. Hyperbolic propagation errors are....

a. the greatest above water.
b. the greatest above land.
c. not present in this type of navigation.

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

a. at an angle of 90º.
b. at the greatest curve.
c. in a diagonal angle.

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

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

c. radar principles using frequency shift.

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. and receiver move towards each other.
b. moves away from the reciever.
c. moves toward the reciever.

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

a. 1 hour.
b. 10 minutes.
c. 1 minute.

41. Emergency lightning can be illuminated by....

a. a guarded three position switch (ON-OFF-ARMED) in the cockpit and a Two position switch in the cabin (ON-NORMAL).
b. automatically when power is removed from the aircraft (in an emergency or by the pilots).
c. a guarded three position switch (ON-OFF-ARMED) in the cabine and a Two position switch in the cockpit (ON-NORMAL).

42. Which priority do announcements from the flightdeck have?

a. Priority 1.
b. Priority 5.
c. Priority 2.

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

What do these remote devices use for communication?

a. VLF.
b. Ethernet.
c. Either infrared (IR) or radio frequency (RF).

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

a. A standard 1 Gbit/s fast Ethernet LAN.
b. Fibre optics.
c. A standard 100 Mbit/s fast Ethernet LAN.

45. What must you do to yaw the aircraft to the right?

a. The right rudder pedal is pushed forward and the rudder moves to the right.
b. The left rudder pedal is pushed forward and the rudder moves to the left.
c. The right rudder pedal is pushed forward and the rudder moves to the left.

46. What is the fundamental difference between a trim tab and a servo tab?

a. The purpose of a trim tab is to reduce continuous stick force to zero, a servo tab only reduces stickforce.
b. The functioning of a trim tab is based on aerodynamic balancing, a servo tab in general is adjusted via a screw jack.
c. A trim tab is automatically adjusted when the particular control surface moves, a servo tab is moved independently of the particular control surface.

47. What will an extended fowler flap increase?

a. Wing area and camber.
b. Wing area and aspect ratio.
c. Wing area.

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

a. power assisted control systems.
b. power operated control systems.
c. direct cable systems.

49. A yaw damper is....

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

50. How can flutter be reduced?

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

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

a. It will reduce the operational height and speed.

b. It will limit the flight profile.
c. It has no effect on the aircraft's operation.

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:

a. 2 and 3
b. 1, 4 and 5
c. 3 and 5

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.

a. 3, 4 and 5.
b. 1, 2 and 3.
c. 1, 3 and 5.

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

a. a helical bimetallic spring.
b. a liquid capillary.
c. a bourdon tube.

55. A partially blocked air filter will cause the air-driven turn indicator to:

a. under read the correct rate of turn.
b. over read the correct rate of turn.
c. indicate zero rate of turn.

56. An aircraft takes off from an airfield 126 ft AMSL with a QFE of 994 hPa set. During flight, a regional QNH of 999 hPa is set. If the aircraft were to return to the departure point, where there had been no pressure change, without re-setting the altimeter, the height reading on landing would be:

a. 276 ft
b. 150 ft
c. 126 ft

57. The case of an airspeed indicator is fed with:

a. Pitot pressure only.
b. Static pressure only.
c. Dynamic pressure only.

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:

a. 2
b. 1, 3 and 4.
c. 1 and 5

59. An Air Data Computer (ADC) :

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

60. Static ports are usually fitted to both sides of the aircraft fuselage. This will:

a. reduce the position error.
b. enable a greater number of instruments to be fitted.
c. balance out errors caused by side slipping or yawing.

61. The quantity of fuel in the tanks is measured by capacitor type contents gauges. The working principle of these sensors is to measure the:

a. charge of condensers.
b. height of the fuel.
c. di-electric resistivity of the fuel.

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

a. decrease the gyroscopic rigidity.
b. have no substantial effect on gyroscopic rigidity.
c. increase the gyroscopic rigidity.

63. Using a classic Artificial horizon, the aircraft performs a right turn (during 1 minute) through 270° at a constant angle of bank and rate of turn. The indication is:

a. Nose up, not enough bank.
b. Bank and pitch correct.
c. Nose up, too much bank.

64. The purpose of the slaving torque motor is:

a. To ensure that the gyro wheel maintains sufficient speed to stay rigid in space.
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.

65. The Ground Proximity Warning systems mode 1 is activated when

a. The aircraft is flying into rising terrain.
b. The barometric descent rate is excessive with respect to the aircraft height above the terrain.
c. An excessive height loss is experienced after take-off during go-around.

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

a. Is difficult to magnetize and retains its magnetism.
b. Is easy to magnetize and loses its magnetism easily.
c. Is difficult to magnetize and loses its magnetism easily.

67. What does a FDR record when combined with a CVR?

1. Cockpit voice;

2. Radio;

3. Public addresses from the cockpit;

4. Cabin voice

a. 1, 2 and 3.
b. all 4.
c. 2 and 4.

68. Mode available for (EFIS) HSI on some units are:

a. VOR, ILS, MAP and AUTO TRIM.
b. MAP and PLAN.
c. Airspeed and Mach.

69. The alerting system functional components used to accomplish the alerting and informing functions for warnings should include:

a. master visual alert or visual information and master aural alert.
b. visual information, master aural alert and voice information.
c. master visual alert, and visual information and master aural alert.

70. A stall warning system is based on a measure of:

a. Airspeed.
b. angle of airflow sensor and flap position transmitter.
c. Groundspeed.

71. A vibration meter measures the....

a. period in seconds.
b. frequency in Hz.
c. amplitude at a given frequency.

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

a. video graphics card.
b. symbol generator.

c. video card.

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

a. Maintenance Message.
b. Fault Code.
c. Status Message.

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

a. the line select keys on the CDU.
b. a press-to-test switch on the computer itself.
c. a control box.

75. A FMS navigation database is updated

a. at the operators request.
b. every 28 days.
c. once a month.

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.

a. 1, 2, 3, 4 and 5.
b. 1, 2, 3 and 6.
c. 1, 3, 4 and 5.

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

a. an inktjet printer.
b. a dot matrix printer.
c. a laser printer.

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 Electronic library system.
b. the CDU (Control Display Unit).
c. the Flight Data Recorder.

79. Helicopter rotor track and balance is done by

a. the "Low Cycle Fatigue Counter".
b. the "HUMS" (Health and Usage Monitoring System).
c. the "Damage Tolerance Monitoring System".

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

a. Spring loaded closed.
b. Spring loaded open.
c. Not spring loaded.

81. Communication in the integrated modular avionics network is partly standardized in…

a. ARINC 653 for the software avionics and AFDX for the data network bus.
b. ARINC 429, ARINC 653 or AFDX.
c. ARINC 429 or AFDX (Avionics Full DupleX).

82. An airborne Ethernet electrical cable (AFDX) is

a. equipped with 4 pins RJ45 connectors.
b. equipped with 4 pins Quadrax connectors.
c. equipped with 8 pins RJ45 connectors.

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

a. Crew Wireless LAN Unit (CWLU).
b. Common Data Network (CDN).
c. Open Data Network (ODN).

84. What are the three functional domains of IMA (Integrated Modular Avionics)?

a. Cockpit, cabin and utilities.
b. Flight, navigation and systems.
c. Ground, flight and transit.

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 ….

a. Controller Pilot Data Link communications (CPDLC).
b. AFDX (Avionics Full Duplex Switched Ethernet).
c. Automatic Dependent Surveillance Broadcast (ADS-B).

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

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

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.
b. Air/ground discrete; IRS (Inertial Reference System) position discrete; ADC (Air Data Computer) discretes (Airspeed, Ground speed, Mach number, altitude).
c. Air/ground discrete; air speed discrete; altitude discrete, GPS position discrete.

88. The inflight entertainment equipment is connected to …

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

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

a. a cell modem component and an antenna located in the aircraft.
b. an ethernet connection in the aircraft.
c. a cell modem component and a terminal receiving station..

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?

a. The FS (file server).
b. The AMCU (Advanced Master Control Unit).

c. The ADB (Area Distribution Box).

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

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

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?

a. secure communication interface.
b. ethernet gateway module.
c. open world diode.

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

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

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

a. Avionics Domain.
b. Communication & Cabin Domain.
c. Flight Operations Domain.

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?

a. A specific status message.
b. A maintenance memo.
c. A scheduled fault message.

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

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