Note: Due to this being copy-pasted off the website and having all of its HTML elements removed the formatting may not always be great. My apologies about that. Other than that it should all mostly check out.

Note: This exam is for if you are going for your Module 13 certificate but already have your certificate for Module 11!!!

1: (Q31) The angle of attack of a blade is the
- o A: angle between the aircraft longitudinal axis and relative air flow.
- o B: angle between the chord line and plane of rotation.
- o C: angle between the chord line and relative airflow.

2: (Q32) The tail rotor
- o A: produces a force opposing torque reaction.
- o B: is not subject to dissymmetry of lift.
- o C: produces a force in the same direction as torque reaction.

3: (Q33) What is autorotation?
- o A: loss off directional control.
- o B: spinning of the helicopter fuselage due to the loss of anti-torque.
- o C: descent of the helicopter with power off.

4: (Q34) How does a rotor generate lift?
- o A: high pressure above the blade.
- o B: low pressure above the blade.
- o C: down-wash below the blade.

5: (Q35) What limits the maximum forward speed of a helicopter?
- o A: retreating blade stall and the forward speed of the advancing blade.
- o B: the shape of the fuselage.
- o C: engine power.

6: (Q36) With an increase in its angle of attack, what happens to the drag acting on a rotor blade?
- o A: decreases.
- o B: increases.
- o C: remains constant.

7: (Q37) What will the advancing blade do during forward flight?
- o A: flap down.
- o B: lag.
- o C: flap up.

8: (Q38) What prevents the rotor blades from 'folding up' during rotation?
- o A: the weight.
- o B: the centrifugal force.
- o C: the lift force.

9: (Q39) What happens to the drag, when the angle of attack is increased on a main rotor blade?

- o A: there is an increase in drag.
- o B: there is no change in drag.
- o C: there is a reduction in drag.

10: (Q40) What is the ability of the rotor blade to move up and down called?
- o A: feathering.
- o B: dragging.
- o C: flapping.

11: (Q41) How do the rotors turn on a co-axial rotor system?
- o A: They counter-rotate on separate masts.
- o B: Both rotate in the same direction on a common shaft.
- o C: They counter-rotate on a common shaft.

12: (Q42) Which movement can each individual blade of a semi-rigid rotor system make independently?
- o A: flap only.
- o B: flap and change pitch.
- o C: flap,change pitch and drag.

13: (Q43) How does collective control input affect the pitch of the blades?
- o A: increases the pitch angle the same amount on all blades.
- o B: increases the angle on the retreating blade and reduces it on the advancing one.
- o C: increases the angle on the advancing blade and reduces it on the retreating one.

14: (Q44) The primary purpose of the tail rotor is
- o A: to give directional control.
- o B: to give lateral stability.
- o C: to counteract torque.

15: (Q45) Which control input must be used to lift the helicopter vertically into the hover?
- o A: collective pitch lever has to be lowered.
- o B: collective pitch lever has to be raised.
- o C: cyclic pitch lever has to be raised.

16: (Q46) Where is the helicopter throttle hand grip located?
- o A: throttle box.
- o B: collective lever.
- o C: cyclic stick.

17: (Q47) What happens when raising the collective lever?
- o A: the pitch is increased on all blades.
- o B: the pitch is decreased on all blades.
- o C: the angle of attack is decreased on the retreating blade.

18: (Q48) What happens to the RPM of the rotor, when lifting the collective lever during an autorotative descent?
- o A: increase.
- o B: reduce.

- o C: remain the same.

19: (Q49) What is the result of moving the helicopter forward?
- o A: advancing blade flapping up.
- o B: pitch angle of all blades decreasing.
- o C: retreating blade flapping up.

20: (Q69) The relationship between the electric field and the magnetic field in a dipole or monopole antenna are....
- o A: out of phase by 90°.
- o B: in phase.
- o C: in phase on a monopole and out of phase in a dipole.

21: (Q70) With reference to antennas, parasitic elements are:
- o A: unfed elements which make the antenna radiation pattern omnidirectional.
- o B: dipole or folded dipole radiating elements.
- o C: unfed elements which make the radiation pattern directional.

22: (Q71) Skin effect is most likely to occur:
- o A: at high power levels up to VHF.
- o B: at the higher frequencies i.e. VHF and above.
- o C: in radar systems fed by rectangular waveguides.

23: (Q72) For a frequency of 121.95 MHz, what is the wavelength?
- o A: 2.46 km
- o B: 2.46 m
- o C: 2.46 cm

24: (Q73) What is the major advantage of the telegraph over earlier methods of communication?
- o A: Range and speed.
- o B: Security.
- o C: Larger messages.

25: (Q74) Radio-frequency waves cannot be seen for which of the following reasons?
- o A: Because radio-frequency waves are above the sensitivity range of the human eye.
- o B: Because radio-frequency energy is low powered.
- o C: Because radio-frequency waves are below the sensitivity range of the human eye.

26: (Q75) Radio waves travel at what speed?
- o A: Speed of the Earth's rotation.
- o B: Speed of sound.
- o C: Speed of light.

27: (Q76) A stone dropped into water creates a series of expanding circles on the surface of the water. This is an example of which of the following types of wave motion?
- o A: Transverse.
- o B: Concentric.
- o C: Longitudinal.

28: (Q77) A sound wave that moves back and forth in the direction of propagation is an example of which of the following types of wave motion?
- o A: Longitudinal.
- o B: Transverse.
- o C: Concentric.

29: (Q78) If a wave has a velocity of 4800 meter per second and a wave-length of 5 meter, what is the frequency of the wave?
- o A: 9,6 kHz
- o B: 960 Hz
- o C: 0,96 MHz

30: (Q79) Which of the following statements about a wave is the law of reflection?
- o A: The angle of incidence is equal to the refracted wave.
- o B: The angle of incidence is equal to the angle of reflection.
- o C: The angle of incidence is not equal to the refracted wave.

31: (Q80) Varying which of the following wave characteristics will cause the length of sound waves to vary?
- o A: Amplitude.
- o B: Phase.
- o C: Frequency.

32: (Q81) What will be the effect on the wavelength of radio wave if the frequency increases? The wavelength....
- o A: will decrease.
- o B: is not influenced.
- o C: will increase.

33: (Q82) An increase in the frequency of a radio wave will have what effect, if any, on the velocity of the radio wave?
- o A: Increase.
- o B: Decrease.
- o C: None.

34: (Q83) The bending of a radio wave because of a change in its velocity through a medium is known as....
- o A: diffraction.
- o B: reflection.
- o C: refraction.

35: (Q84) Electrically charged particles that affect the propagation of radio waves are found in what atmospheric layer?
- o A: Troposphere.
- o B: Ionosphere.
- o C: Stratosphere.

36: (Q85) Ionization in the atmosphere is produced chiefly by which of the following types of radiation?
- o A: Alpha radiation.
- o B: cosmic radiation.
- o C: ultraviolet radiation.

37: (Q86) The density of ionized layers is normally greatest during which of the following periods?
- o A: Between early morning and late afternoon.
- o B: At night.
- o C: Between afternoon and sunset.

38: (Q87) Compared to the other ionospheric layers at higher altitudes, the ionization density of the D layer is
- o A: about the same.
- o B: relatively high.
- o C: relatively low.

39: (Q88) What two layers in the ionosphere recombine and largely disappear at night?
- o A: D and E
- o B: D and F
- o C: F1 and F2

40: (Q89) For hf-radio communications covering long distances, what is the most important layer of the ionosphere?
- o A: D
- o B: C
- o C: F

41: (Q90) The distance between the transmitter and the nearest point at which refracted waves return to earth is referred to as the
- o A: reception distance.
- o B: skip distance.
- o C: return distance.

42: (Q91) Which irregular variation in ionospheric conditions can cause a waiting period of several days before communications return to normal?
- o A: Sudden ionospheric disturbance.
- o B: Ionospheric storms.
- o C: Sporadic E

43: (Q92) At frequencies above 100 MHz, the greatest attenuation of rf energy from raindrops is caused by which of the following factors?
- o A: absorption.
- o B: ducting.
- o C: scattering.

44: (Q93) Under certain conditions, such as ducting, line-of-sight radio waves often propagate for distances far beyond their normal ranges because of which of the following factors?
- o A: low cloud masses.

- o B: ionospheric storms.
- o C: temperature inversions.

45: (Q94) A transmission line is designed to perform which of the following functions?
- o A: Disperse energy in all directions.
- o B: Replace the antenna in a communications system.
- o C: Guide electrical energy from point to point.

46: (Q95) A measurement of the voltage to current ratio (Vin/Iin) at the input end of a transmission line is called the
- o A: voltage-gain ratio.
- o B: input-gain rate.
- o C: input impedance.

47: (Q96) Uniform capacitance throughout the length of the line is an advantage of which of the following transmission lines?
- o A: Twisted pair.
- o B: Shielded pair.
- o C: Coaxial line.

48: (Q97) Energy is transmitted from a transmitter into space using which of the following devices?
- o A: an antenna.
- o B: a receiver.
- o C: a delay time.

49: (Q98) An antenna that can be mounted to radiate rf energy either vertically or horizontally is classified as which of the following types?
- o A: Marconi.
- o B: Hertz.
- o C: Quarter-wave.

50: (Q99) A complete antenna system consists of which of the following components?
- o A: A feeder line, a coupling device, and an antenna.
- o B: A feeder, a coupling device, and a transmitter.
- o C: An antenna, a transmission line, and a receiver.

51: (Q100) What is the wavelength of the basic Marconi antenna?
- o A: wavelength.
- o B: 1/2 wavelength.
- o C: 1/4 wavelength.

52: (Q101) Attenuation is….
- o A: the increase of power of a radio signal.
- o B: the loss of power of a radio signal.
- o C: the combination of multiple radio signals.

53: (Q102) The VHF (very high frequency) range of the radio spectrum is the band extending from
- o A: 30 MHz to 300 MHz.

- o B: 300 to 3000 MHz.
- o C: 3 to 30 GHz

54: (Q103) The VHF (very high frequency) is the standard civil short range communication facility using the band of frequencies between
- o A: 1.5 to 1.6 GHz.
- o B: 2 and 29.999 MHz.
- o C: 118 and 136 MHz.

55: (Q104) VHF is used by ground control facilities and aircraft or by aircraft and other aircraft on one of ……. possible frequency channels with …… spacing between channels.
- o A: 2280 - 50 kHz
- o B: 720 - 25 kHz
- o C: 360 - 8.33 kHz

56: (Q105) The mode of operation of the VHF comms transceiver is
- o A: double channel duplex.
- o B: single channel duplex.
- o C: single channel simplex.

57: (Q106) Satisfactory two-way VHF communication can typically be maintained up to …… miles, this range dependent on the aircraft height.
- o A: 2000
- o B: 200
- o C: 20

58: (Q107) A squelch circuit disables the receiver output, ….
- o A: when a SELCAL is received from ground stations equipped with a coding device.
- o B: when no signals are being received so preventing noise being fed to the crew headsets between ground transmissions.
- o C: when satcom is selected.

59: (Q108) The HF (high frequency) range of the radio spectrum is the band extending from
- o A: 300 MHz to 3 GHz
- o B: 30 MHz to 300 MHz.
- o C: 2 - 30 MHz

60: (109) The HF …….matches the antenna impedance to the transceiver output over the HF frequency range.
- o A: transceiver
- o B: antenna coupler
- o C: FDAU (Flight data acquisition unit)

61: (Q110) The Selcal (Selective Calling) can be used by….
- o A: VHF system only.
- o B: VHF and HF systems.
- o C: HF system only.

62: (Q111)Emergency locator transmitters are self-contained, self-powered radio transmitters, designed to transmit a signal on the international distress bands of ..... (civilian) and ..... (military).
- o A: 30 MHz - 300 MHz
- o B: 108.10 MHz - 112 MHz
- o C: 121.5 MHz - 243 MHz

63: (Q112) New ELT s will transmit on ..... so that the signal can be picked up by the Search and Rescue satellite network.
- o A: 121.5 MHz
- o B: 108.10 MHz
- o C: 406.025 MHz

64: (Q113) Operation of an ELT.... 1. is automatic on impact by a 'G' force switch in the transmitter. 2. can be done through a remote switch in the cockpit. 3. can be done by a switch on the unit itself. 4. can be turned off with the switch on the case.
- o A: 1, 2, 3 and 4.
- o B: 1, 2 and 4.
- o C: 2, 3 and 4.

65: (Q114) When activated, the battery of an ELT must be capable of furnishing power for signal transmission for at least ...
- o A: 48 hours.
- o B: 24 hours.
- o C: 28 days.

66: When activated, the ELT transmits : 1. a standard swept tone on 121.5 MHz. 2. a standard swept tone on 243.0 MHz. 3. a 5 watt encoded digital message to the COSPAS/SARSAT satellite system. 4. a 24 bit address through the Mode S transponder.
- o A: 1 and 4.
- o B: 1, 2 and 4.
- o C: 1, 2 and 3.

67: (Q116) The Cockpit Voice Recorder (CVR) records : 1. conversations between pilot and co-pilot. 2. conversations between cockpit crew and air traffic controllers. 3. passenger announcements. 4. ambient cockpit sounds for example deployment of the landing gear.
- o A: 1, 2, 3 and 4.
- o B: 1, 2 and 3.
- o C: only 1 and 2.

68: (Q117) The Cockpit Voice Recorder of a large transport aircraft will always store the last....
- o A: 120 minutes.
- o B: 30 minutes.
- o C: 60 minutes.

69: (Q118) The Cockpit Voice Recorder of an aircraft of 5700 kg or less will always store the :
- o A: last 30 minutes.
- o B: last 60 minutes.
- o C: last 120 minutes.

70: (Q119) On an ILS approach what will cause the aircraft to fly onto the beam?
- o A: Glideslope deviation.
- o B: Course deviation.
- o C: Radio deviation.

71: (Q120) What is the glide slope frequency range?
- o A: 329 - 335 Mhz.
- o B: 108 - 112 Ghz.
- o C: 108 - 112 Mhz.

72: (Q121) ILS is subject to false glide paths resulting from:
- o A: multiple lobes of radiation patterns in the vertical plane.
- o B: ground returns ahead of the antennas.
- o C: false signals reflected by nearby obstacles.

73: (Q122) The aircraft DME receiver is able to accept replies to its own transmissions and reject replies to other aircraft interrogations because:
- o A: transmission frequencies are 63 MHz different for each aircraft.
- o B: pulse pairs are discreet to a particular aircraft.
- o C: pulse pairs are amplitude modulated with the aircraft registration.

74: (Q123) The MIDDLE MARKER of an Instrument Landing System (ILS) facility is identified audibly and visually by a series of:
- o A: dashes and an amber light flashing.
- o B: dots and a white light flashing.
- o C: alternate dots and dashes and an amber/yellow light flashing.

75: (Q124) The amplitude modulation and the colour of an outer marker (OM) is:
- o A: 400 Hz, blue.
- o B: 3000 Hz, amber.
- o C: 400 Hz, amber.

76: (Q125) The BFO (Beat Frequency Oscillator) selector on an ADF receiver is used to....
- o A: display the ident on display.
- o B: find the loop 'null' position.
- o C: hear the IDENT of some NDB stations radiating a continuous wave signal.

77: (Q126) In which frequency band do VOR transmitters operate?
- o A: VHF.
- o B: UHF.
- o C: SHF.

78: (Q127) What is the colour sequence when passing over an Outer, Middle and Inner Marker beacon?
- o A: amber(yellow) - white - green
- o B: blue - amber(yellow) - white
- o C: blue - green - white

79: (Q128) Transmissions from VOR facilities may be adversely affected by....
- o A: uneven propagation over irregular ground surfaces.
- o B: night effect.
- o C: static interference.

80: (Q129) In a Doppler VOR (DVOR) the reference signal is ...(1)..., the bearing signal is ...(2)... and the direction of rotation of the bearing signal is ...(3)...
- o A: (1) AM - (2) FM - (3) anti-clockwise.
- o B: (1) FM - (2) AM - (3) clockwise.
- o C: (1) AM - (2) FM - (3) clockwise.

81: (Q130) Concerning conventional and Doppler VORs (DVOR), which of the following is correct?
- o A: The DVOR has a higher audio ident tone than the standard VOR.
- o B: It is not possible for the instrumentation display to determine which type is being used.
- o C: The DVOR will always have a 'D' in the ident.

82: (Q131) A conventional VOR....
- o A: has an AM reference signal and a FM variable signal.
- o B: has an FM reference signal and an AM variable signal.
- o C: has an AM reference signal and a 150 Hz variable signal.

83: (Q132) In an ADF system, night effect is most pronounced:
- o A: at dusk and dawn.
- o B: during long winter nights.
- o C: when the aircraft is at high altitude.

84: (Q133) Bearing information in an ADF system is....
- o A: provided by the flight management system.
- o B: measured and calculated by the ADF system.
- o C: received by the antenna.

85: (Q134) Every dot on the localizer deviation scale is....
- o A: 10 nm from center line
- o B: 1 nm from center line
- o C: 5 nm from center line

86: (Q135) What are the primary navigation inputs used by RNAV system?
- o A: Nav Aids, Mapping Radar, FMC.
- o B: INS, Nav Aids, TAS and Drift.
- o C: Nav Aids, INS, FMC.

87: (Q136) Which one of the following inputs to an Area Navigation System (R-NAV) comes from an external, not on-board, system?
- o A: Inertial Navigation System (INS) position.
- o B: Magnetic heading.
- o C: VOR/DME radial/distance.

88: (Q137) What is the required accuracy of a precision area navigation system?

- o A: 10 nautical miles.
- o B: 5 nautical miles.
- o C: 1 nautical mile.

89: (Q138) A basic RNAV system will determine tracking information from....
- o A: Twin VOR.
- o B: VOR/DME.
- o C: twin DME.

90: (Q139) The sequence of entering information in a MCDU is....
- o A: IDENT - RTE - POS INIT
- o B: POS INIT - IDENT - RTE
- o C: IDENT - POS INIT - RTE

91: (Q140) The IRS position can be initialized....
- o A: on the ground only.
- o B: at designated positions en-route and on the ground.
- o C: on the ground and in flight with VOR/DME.

92: (Q141) The period of validity of the navigational database is:
- o A: 28 days.
- o B: 1 month.
- o C: 91 days.

93: (Q142) When power is applied to the FMS, the CDU shows the....
- o A: ident page.
- o B: route (RTE) page.
- o C: climb (CLB) page for take-off.

94: (Q143) What is an FMC?
- o A: A flight management inertial reference system.
- o B: A flight management computer.
- o C: An autopilot/flight director system.

95: (Q144) Which of the following is the FMS normal operating condition in the cruise?
- o A: LNAV and VNAV.
- o B: LNAV only
- o C: LNAV or VNAV.

96: (Q145) If there is no (navigation) radio updating, what effect will this have on the FMS?
- o A: this FMS will automatically update the system.
- o B: this will have no effect on the FMS.
- o C: this may cause the FMS to deviate from the desired track.

97: (Q146) In the FMS vertical navigation (VNAV) climb mode the throttles are used for
- o A: maintaining a computed EPR.
- o B: correction for minor speed deviations.
- o C: controlling to a maximum thrust.

98: (Q147) To know the valid data base on the FMS
- o A: perform a BITE check.
- o B: call up the relevant current status.
- o C: call up the relevant page on the CDU.

99: (Q148) If one FMS fails in a dual system
- o A: FMS CDU on fail side goes blank.
- o B: system operation will not be affected.
- o C: FMS display transfers data automatically from serviceable computer.

100: (Q149) To carry out FMS database update on FMS
- o A: insert new EPROM.
- o B: insert new data on CDU.
- o C: use database loader.

101: (Q150) The Flight Management Computer (FMC) position is:
- o A: another source of aircraft position; it is independent of other position sources (IRS, Radio, ILS etc).
- o B: the computed position based on a number of sources (IRS, Radio, ILS, GPS etc).
- o C: the actual position of the aircraft at any point in time.

102: (Q151) How many satellites are required for GNSS?
- o A: 8
- o B: 4
- o C: 6 (90° apart)

103: (Q152) The space segment of GPS consists of a minimum of....
- o A: 24 satellites.
- o B: 21 satellites.
- o C: 27 satellites.

104: (Q153) GPS sends different codes, what are these codes?
- o A: C/A (coarse/acquisition) code only.
- o B: P code only.
- o C: C/A code and P (precision) code.

105: (Q154) What is the pseudo-random code used by all civilian GPS users?
- o A: the C/A code.
- o B: the P code.
- o C: the Y code.

106: (Q155) What is the minimum number of satellites required for a Satellite-Assisted Navigation System (GNSS/GPS)?
- o A: 2
- o B: 4
- o C: 3

107: (Q156) Which of the following lists all the parameters that can be determined by a GPS receiver tracking signals from 4 different satellites?
- o A: Latitude and longitude.
- o B: Latitude, longitude and altitude.
- o C: Latitude, longitude, altitude and time.

108: (Q157) Which of the following combinations of satellite navigation systems provide the most accurate position fixes in air navigation?
- o A: GLONASS and COSPAS-SARSAT.
- o B: NNSS-Transit and GLONASS.
- o C: NAVSTAR/GPS and GLONASS.

109: (Q158) The satellites (GPS) provide: position, time data and....
- o A: flightplan.
- o B: distance from departure.
- o C: velocity.

110: (Q374) An automatic pilot is a system which can ensure the functions of:
- o A: Navigation.
- o B: Piloting and guidance of an aircraft in both the horizontal and vertical planes.
- o C: Piloting from take-off to landing without any action from the pilot.

111: (Q375) On an autopilot coupled approach, GO AROUND mode is engaged:
- o A: By the pilot pushing a button located on the throttles.
- o B: By the pilot selecting G.A. mode on the flight mode control panel.
- o C: If the aircraft reaches the decision height selected on the radio altimeter at a higher speed than the one selected.

112: (Q376) A full operational autopilot system will ensure that
- o A: the automatic pilot will automatically disengage whenever any failure is detected.
- o B: the aircraft will continue its automatic landing in the event of a single failure.
- o C: the automatic pilot will automatically cause the aircraft to overshoot if any failure is detected.

113: (Q377) To carry out an autopilot check first
- o A: switch off all power.
- o B: switch on NAV receivers.
- o C: ensure all control surfaces are unobstructed.

114: (Q378) The definition of fail operational is the ability of a system to
- o A: disconnect but leave the aircraft out of trim.
- o B: disconnect and leave the aircraft in trim.
- o C: continue to control after any first fault.

115: (Q379) Flight director command bars indicate
- o A: Direction in which the beacon is.
- o B: Direction in which aircraft is flying.
- o C: Direction in which aircraft is to be manoeuvred.

116: (Q380) The command bars of a flight director are generally represented on an:
- o A: HSI (Horizontal Situation Indicator).
- o B: ADI (Attitude Director Indicator).
- o C: RMI (Radio Magnetic Indicator).

117: (Q381) The position of a Flight Director command bars:
- o A: only displays information relating to radio-electric deviation.
- o B: indicates the manoeuvers to execute, to achieve or maintain a flight situation.
- o C: enables the measurement of deviation from a given position.

118: (Q382) A single axis autopilot system provides....
- o A: control about the pitch axis.
- o B: stabilisation about the normal axis.
- o C: control about the roll axis.

119: (Q383) A single axis autopilot may also be called:
- o A: wing leveller.
- o B: altitude hold.
- o C: auto stabilisation loop.

120: (Q384) A three-axis auto pilot is....
- o A: a system which will maintain a preselected airspeed.
- o B: a system which will maintain a preselected altitude.
- o C: an auto stabilisation system.

121: (Q385) An automatic flight control system:
- o A: can only be used in EFIS equipped aircraft.
- o B: is another name for an autopilot system.
- o C: applies flight data to the auto pilot system.

122: (Q386) Autopilot disengagement is....
- o A: a caution light and an aural warning.
- o B: an aural warning only.
- o C: an aural warning and flashing light.

123: (Q387) An autopilot closed loop control....
- o A: is controlled by the AP mode control unit.
- o B: has no feedback data.
- o C: is for stabilisation only.

124: (Q388) Coordinated autopilot turns are achieved by
- o A: aileron to rudder crossfeed.
- o B: aileron to elevator crossfeed.
- o C: yaw rate gyro signals.

125: (Q389) The Altitude Select System:
- o A: Engages autopilot Auto Trim at selected altitude.
- o B: Disengages autopilot Auto Trim at selected altitude.

- C: Is annunciated by light and/or sound when airplane is approaching selected altitude.

126: (Q390) The fundamental components of an autopilot control loop are:
- A: torque limiter, error signal generator, servomotor.
- B: rate gyro, servo motor, torque limiter.
- C: rate gyro, servomotor, error signal generator.

127: (Q391) What controls in a closed loop system the flight control movement?
- A: An amplifier.
- B: A rate gyro.
- C: A servomechanism.

128: (Q392) With the autopilot engaged in the ALT mode the Captain alters the barometric setting. The aircraft:
- A: maintains its altitude.
- B: trips out of altitude hold.
- C: changes its altitude in accordance with the change in pressure setting.

129: (Q393) Which modes are incompatible?
- A: VOR + ALTITUDE HOLD
- B: G/S + ALTITUDE HOLD
- C: HDG + V/S HOLD

130: (Q394) In the FMS vertical navigation (V NAV) climb mode the throttles are used for
- A: controlling to a maximum thrust.
- B: maintaining a computed EPR.
- C: correction minor speed deviations.

131: (Q395) The GA mode is usually initiated by....
- A: pressing a button on thrust levers.
- B: making a selection on the mode control panel.
- C: pressing a button on the autopilot control panel.

132: (Q396) Overshoot or go-around mode can be initiated
- A: at any time.
- B: only when the auto-approach mode is activated.
- C: at any time after autoland has been engaged.

133: (Q397) If go-around has been initiated after auto-land has been selected, the aeroplane will
- A: increase speed.
- B: rotate nose up.
- C: increase speed and rotate nose up.

134: (Q398) The two parameters used for category aircraft classification are....
- A: decision height and runway visual range.
- B: radio height/runway visual range.
- C: localiser and glideslope.

135: (Q399) What is the controlling factor in the automatic flare mode?
- o A: Decision height.
- o B: Localizer signal.
- o C: Radio altimeter.

136: (Q400) With airspeed hold engaged, Flight Director engaged, a down command means your speed....
- o A: has decreased.
- o B: keeps the same.
- o C: has increased.

137: (Q401) On aircraft an auto land during auto flare the auto throttle will
- o A: reverse thrust.
- o B: retard the throttle.
- o C: control throttle for a IAS.

138: (Q402) During approach, roll out mode occurs....
- o A: before flare.
- o B: at alert height.
- o C: after flare.

139: (Q403) When being engaged, and without selecting a particular mode, an automatic pilot enables....
- o A: a constant speed on track, wings horizontal.
- o B: all aeroplane piloting and guidance functions except maintaining radio-navigation course lines.
- o C: aeroplane stabilisation with attitude hold.

140: (Q404) Automatic flight systems may be capable of controlling the aircraft flight in:
- o A: azimuth, elevation and velocity.
- o B: azimuth and velocity only.
- o C: azimuth and elevation only.

141: (Q405) An automatic flight control system is fitted with control wheel steering (CWS)
- o A: the CWS is only there for steering on the ground.
- o B: manoeuvering commands may be input by applying normal force to the control yoke without first disengaging the autopilot.
- o C: the autopilot must be disengaged before the pilot can input manoeuvering commands.

142: (Q406) Inputs to the rudder channels initially originate from
- o A: servomotors.
- o B: AH (altitude hold) gyro and turn and slip gyro.
- o C: compass gyro and turn and slip gyro.

143: (Q407) Which airplane behavior will be corrected by a yaw damper?
- o A: Spiral dive.
- o B: Tuck under.
- o C: Dutch roll.

144: (Q408) The purpose of a yaw damper is to
- o A: assist the aerodynamic response.
- o B: block the Dutch roll frequency.
- o C: produce a coordinated turn.

145: (Q409) When the aircraft nose yaws to the left, the yaw damper will apply corrective rudder to
- o A: the left with some aileron assistance.
- o B: the left.
- o C: the right.

146: (Q410) A yaw damper will apply rudder proportional to
- o A: attitude of aircraft.
- o B: rate of yaw.
- o C: amount of aircraft disturbance.

147: (Q411) An aircraft has yaw damping included in its auto stabilisation system. An essential requirement of such system is:
- o A: a three axis autopilot system.
- o B: series connected servo motors.
- o C: INS inputs to the CADC.

148: (Q412) A triplex system loses one channel, the pilot....
- o A: can use auto approach only.
- o B: can continue with autoland.
- o C: must make a full manual approach and land.

149: (Q413) A Stability Augmentation System (SAS) is a rate damping system that will:
- o A: Stop unwanted rate of motion from developing.
- o B: Gives good control and handling characteristics.
- o C: All of the answers.

150: (Q414) 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 occurred.
- o 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.

151: (Q415) A duplex SAS (Stability Augmentation System) architecture ensures that a lane failure results in....
- o A: 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.
- o B: a setting which limits the movement of the two lane actuators.
- o C: a passive failure with the system reverting to manual operation.

152: (Q416) Automatic trim is used to....
- o A: prevent loads on the elevator trims.
- o B: maintain level flight.
- o C: allow full authority to be regained by the aileron.

153: (Q417) The purpose of Automatic Trim function in autopilot is to....
- o A: trim throttles to obtain smooth engine power variation.
- o B: tell the pilot when elevator trimming is required.
- o C: control elevator trim tab in order to relieve elevator load.

154: (Q418) In the automatic trim control system of an autopilot, automatic trimming is normally effected about the :
- o A: pitch axis only.
- o B: pitch, roll and yaw axes.
- o C: pitch and roll axes only.

155: (Q419) The purpose of an airplane automatic trim system is to trim out the hinge moment of the :
- o A: elevator(s) and rudder(s).
- o B: elevator(s).
- o C: elevator(s), rudder(s) and ailerons.

156: (Q420) Automatic mach trim is functional in the....
- o A: pitch and roll channel with the autopilot engaged.
- o B: pitch channel only with the autopilot disengaged.
- o C: pitch channel only with the autopilot engaged.

157: (Q421) An automatic pitch trim system employs a separate pitch trim servomotor which operates....
- o A: as a stand-alone system.
- o B: in parallel with the autopilot pitch control servo.
- o C: in series with the autopilot pitch control servo.

158: (Q422) Automatic steering of the aircraft after touch down is affected by
- o A: the area navigation system.
- o B: the runway localiser.
- o C: the airfield marker beacon.

159: (Q423) The flare manoeuvre may be controlled by signals from
- o A: radio altimeter.
- o B: the glide slope receiver.
- o C: the localiser receiver.

160: (Q424) When the bank angle limit is applied to the autopilot , it means
- o A: the max roll angle that can be demanded by the autopilot.
- o B: maximum rudder deflection.
- o C: the max aileron angle that can be commanded.

161: (Q425) 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.
- o 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.

162: (Q426) Mode 'Localizer ARM' active on Flight Director means:
- o A: System is armed for localizer approach and coupling will occur upon capturing center line.
- o B: Localizer is armed and coupling will occur when flag warning disappears.
- o C: Coupling has occurred and system provides control data to capture the centerline.

163: (Q427) The application of normal forces on the control column with the autopilot engaged is called....
- o A: touch control steering.
- o B: parallel connected system.
- o C: control wheel steering.

164: (Q428) Central Air Data Computers (CADC's) transmit data concerning
- o A: airspeed and altitude only.
- o B: airspeed, altitude and decision height.
- o C: airspeed, altitude and Mach number.

165: (Q429) LNAV is an ...(1)..... input to the.....(2)..... channel using data from the ...(3).....
- o A: (1) outer loop - (2) roll - (3) FMC
- o B: (1) outer loop - (2) pitch - (3) FMC
- o C: (1) inner loop - (2) pitch - (3) ADC

166: (Q430) The flight director is displayed on the....
- o A: EHSI
- o B: EADI
- o C: bearing indicator

167: (Q431) The take-off of an aircraft is....
- o A: flown manually.
- o B: flown automatically.
- o C: not possible with go-around (GA) set on the trust mode control panel (TMCP).

168: (Q432) The fixed trim tab....
- o A: is riveted to the leading edge.
- o B: is adjusted by bending.
- o C: is manually controlled from the cockpit.

169: (Q433) Auto-throttle engaged mode can be checked by the pilot, using:
- o A: thrust control computer.
- o B: primary flight display.
- o C: position of throttles.

170: (Q434) The auto throttle system is: 1. able to catch and maintain the N1 RPM. 2. able to catch and maintain the N2 RPM. 3. able to catch and maintain an airplane indicated airspeed IAS. 4. always engaged automatically at the same time as the autopilot. The combination regrouping all the correct statements is:
- o A: 1 and 4.
- o B: 1 and 3.

- o C: 2 and 3.

171: (Q435) 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:
- o A: 2 and 4
- o B: 1 and 5
- o C: 1 and 4

172: (Q436) The autothrottle maintains a specific value of thrust in terms of:
- o A: EPR, N1, Mach and airspeed.
- o B: N2, Mach and airspeed.
- o C: N1, Mach and airspeed.

173: (Q437) Auto throttle can hold: 1. speed. 2. flight path. 3. altitude. 4. Mach. 5. EPR / N1. 6. Attitude. The combination regrouping all the correct statements is:
- o A: 1, 4 and 5.
- o B: 1, 2 and 6.
- o C: 1, 2, 3 and 4.

174: (Q438) An automatic throttle, engaged in the EPR mode, will control
- o A: the aircraft altitude to maintain constant engine input pressure.
- o B: the engine throttles to maintain a constant engine power setting.
- o C: the engine throttles to maintain a constant acceleration rate.

175: (Q439) With autothrottle selected in the SPEED MODE compatible autopilot modes are
- o A: IAS HOLD and ALT ARM.
- o B: V/S and ALT ARM.
- o C: VOR ARM and HDG HOLD.

176: (Q440) When can the FMS be engaged with the autothrottle?
- o A: With either the Flight Director or the Digital Control System (DFCS) engaged.
- o B: only after take off.
- o C: only with the Flight Director selected.

177: (Q441) During flare mode autothrottle will
- o A: select reverse thrust.
- o B: disconnect autothrottle.
- o C: retard throttles to idle.

178: (Q442) If during take off (auto throttle engaged) the auto throttle fails, then….
- o A: Status light illuminates.
- o B: Throttle hold is annunciated.
- o C: Auto pilot disengages.

179: (Q443) When GA is initiated?
- o A: Auto throttle remains engaged allowing pilot to control the throttles.

- o B: Auto throttle remains engaged giving correct G/A thrust.
- o C: Auto throttle disengages at 2000 ft/min rate and wings will level.

180: (Q444) During the flair mode the A/T throttle will
- o A: retard throttle to idle.
- o B: disconnect autothrottle.
- o C: select reverse thrust.

181: (Q445) The purpose of Auto Throttle is:
- o A: to deactivate manual throttles and transfer engine control to Auto Pilot
- o B: automatic shut down of one engine at too high temperature.
- o C: to maintain constant engine power or airplane speed.

182: (Q446) In order to know in which mode the autothrottles are engaged, the crew will check the:
- o A: throttles position.
- o B: PFD (Primary Flight Display).
- o C: ND (Navigation Display).

183: (Q447) On an autopilot coupled approach, GO AROUND mode is engaged:
- o A: By the pilot pushing a button located on the throttles.
- o B: If the aircraft reaches the decision height selected on the radio altimeter at a higher speed than the one selected.
- o C: By the pilot selecting G.A. mode on the thrust computer control panel.

184: (Q448) 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:
- o A: 1, 2, 5.
- o B: 1, 3, 4.
- o C: 1, 2, 3.

185: (Q449) During an automatic landing, the aircraft descent rate is sensed by
- o A: radio altimeters.
- o B: pitch rate gyros.
- o C: vertical accelerometers.

186: (Q450) Overshoot or go-around mode can be initiated….
- o A: at any time.
- o B: below 2000 feet radio altitude.
- o C: only when autopilot is engaged.

187: (Q451) In a duplex system, the detection of a failure of one simplex system will disconnect….
- o A: all channels.
- o B: the failed system and continue in a trimmed safe attitude.
- o C: the failed system and carry on with an autoland.

188: (Q452) Which is the correct sequence for an autoland?
- o A: Localiser capture, glideslope capture, attitude hold and flare.
- o B: Glideslope capture, altitude hold and flare.
- o C: Localiser capture, glideslope capture, flare and attitude hold.

189: (Q453) Before an aeroplane is able to make an automatic landing the
- o A: ground radio aids must be at least CAT I.
- o B: ILS system must be working.
- o C: ground radio aids must be at CAT II.

190: (Q454) If during autoland the LOC signal is lost at 400 ft in final approach
- o A: autoland is continued.
- o B: system degrade to CAT II.
- o C: go-around is initiated.

191: (Q455) The order of autoland approach is
- o A: LOC, GS, FLARE, ATT HOLD
- o B: GS, LOC, ATT HOLD, FLARE
- o C: LOC, GS, ATT HOLD, FLARE

192: (Q456) Purpose of an autoland decrabbing manoeuvre is to
- o A: point the aircraft down the runway at touch down.
- o B: assist with localiser tracking.
- o C: assist with glide slope tracking.

193: (Q457) Until touchdown, auto pilot, with auto-land system....
- o A: disconnects after a short time.
- o B: drives the throttles forward.
- o C: remains engaged ready for G/A.

194: (Q458) If a fault is detected during an autoland approach the system will totally disconnect if it is a
- o A: Simplex system.
- o B: Duplex system.
- o C: Triplex system.

195: (Q459) An aircraft will capture the auto land system at
- o A: 1500 ft.
- o B: 3500 ft.
- o C: 2500 ft.

196: (Q460) In an Autoland, autothrottle is disengaged
- o A: after a fixed period of the time after landing.
- o B: manually after landing.
- o C: after reverse thrust is applied.

197: (Q461) During autoland all autopilot channels will disconnect in....
- o A: dual-dual system.

- o B: duplex system.
- o C: triplex system.

198: (Q462) In triplex autoland system failure of one channel will
- o A: disconnect the failure channel and continue with a manual approach.
- o B: disconnect all channels.
- o C: disconnect the failure channel and continue autoland approach.

199: (Q463) A landing will be considered to be performed in the AUTOMATIC mode when: 1. the autopilot maintains the airplane on the ILS beam until the decision height is reached then is disengaged automatically. 2. the auto throttle maintains a constant speed until the decision height is reached then is disengaged automatically. 3. the autopilot maintains the airplane on the ILS beam until the flare. 4. the auto throttle decreases the thrust when the height is approximately 30 ft. 5. the flare and the ground roll are performed automatically. The combination regrouping all the correct statements is:
- o A: 3, 4 and 5.
- o B: 2, 3 and 5.
- o C: 1 and 4.

200: (Q464) During a Category II automatic approach, the height information is supplied by the:
- o A: altimeter.
- o B: radio altimeter.
- o C: encoding altimeter.

201: (Q465) During a CAT 2 ILS automatic approach, the source for altitude information is the
- o A: radar altimeter which becomes effective below about 2500 feet.
- o B: mode comparator sensor.
- o C: basic altitude capsule stack.

202: (Q466) With localizer capture, the EFIS indication is VOR/LOC in....
- o A: green letters.
- o B: white letters.
- o C: amber letters.

203: (Q467) Secondary Surveillance Radar is a form of .(1)..radar with .(2)..type emissions operating in the .(3)..band.
- o A: (1) primary - (2) pulse - (3) SHF
- o B: (1) secondary - (2) FM - (3) SHF
- o C: (1) secondary - (2) pulse - (3) UHF

204: (Q468) The ATC altitude information is relative to....
- o A: 10.92 mbar level.
- o B: 1013.2 mbar level.
- o C: 29.92 bar level.

205: (Q469) The special 'Ident' feature (SPI-code)....
- o A: is to confirm TCAS identity.
- o B: allows ATC to confirm aircraft identity.

o C: is to confirm SELCAL identity.

206: (Q470) What is the correct response to a TCAS RA?
o A: Pilots follow the climb or descent commands smoothly and immediately.
o B: Pilots turn 90° and they follow the climb or descent commands smoothly and immediately.
o C: Pilots have to follow ATC instructions as these override TCAS RA's.

207: (Q471) On a TCAS2 (Traffic Collision Avoidance System) the preventive 'resolution advisory' (RA)....
o A: advices the pilot to modify the speed of his aircraft.
o B: suggests action to be taken to avoid a conflict.
o C: advices the pilot to modify effectively the vertical speed of his aircraft.

208: (Q472) TCAS 2 (Traffic Collision Avoidance System) uses for its operation:
o A: both the replies from the transponders of other aircraft and the ground-based radar echoes.
o B: only the echoes from the ground air traffic control radar system.
o C: only the replies from the transponders of other aircraft.

209: (Q473) A 'resolution advisory' (RA) is represented on the display system of the TCAS 2 (Traffic Collision Avoidance System) by a....
o A: solid red square.
o B: blue or white full lozenge.
o C: red full circle.

210: (Q474) The principle of the TCAS (Traffic Collision Avoidance Systems) is based on the use of :
o A: transponders fitted in the aircraft.
o B: airborne weather radar system.
o C: air traffic control radar systems.

211: (Q475) A 'TCAS II' (Traffic Collision Avoidance System) provides:
o A: a simple intruding airplane proximity warning..
o B: the intruder relative position and possibly an indication of a collision avoidance manoeuvre within the vertical plane only.
o C: the intruder relative position and possibly an indication of a collision avoidance manoeuvre within the horizontal plane only.

212: (Q476) On a TCAS 2 (Traffic Collision Avoidance System) the preventive 'resolution advisory' (RA) is a 'resolution advisory':
o A: asking the pilot to modify the heading of his aircraft.
o B: that advises the pilot to avoid certain deviations from the current vertical rate but does not require any change to be made to that rate.
o C: asking the pilot to modify effectively the vertical speed of his aircraft.

213: (Q477) The TCAS (Traffic Collision Avoidance System) is a proximity alarm system which detects a 'traffic' when the conflicting traffic is equipped with a:
o A: serviceable mode S or SSR transponder.
o B: SELCAL system.
o C: DME system.

214: (Q478) 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:

- o A: 1 and 2
- o B: 1, 2, 3 and 4.
- o C: 1 and 3

215: (Q479) A mode C transponder

- o A: can be used for TCAS on ILS approach only.
- o B: can be used for TCAS II.
- o C: cannot be used for TCAS II.

216: (Q480) Weather Radar returns show areas of precipitation in the following colors:

- o A: Green, Magenta, Blue and Red.
- o B: Green, Yellow, Red and Magenta.
- o C: Green, Orange, Yellow and Red.

217: (Q481) Weather radar domes are protected from lightning strikes by

- o A: the use of special conductive paint.
- o B: special conducting or non-conducting grease.
- o C: bonding strips.

218: (Q482) What does the Radar contour button do?

- o A: Alter the video amplifier.
- o B: Alter the display presentation.
- o C: Alter the transmitter power.

219: (Q483) A frequency used by airborne weather radar is:

- o A: 8800 MHz.
- o B: 1213 MHz.
- o C: 9.375 GHz.

220: (Q484) Airborne Weather Radar is an example of….. radar operating on a frequency of….. in the…..band.

- o A: secondary - 9.375 MHz - UHF
- o B: primary - 9375 MHz - SHF
- o C: secondary - 9375 MHz - SHF

221: (Q485) A false indication of water may be given by the AWR display when:

- o A: there is cloud and precipitation between the aircraft and a cloud target.
- o B: flying over land with the Land/Sea switch in the Sea position.
- o C: flying over mountainous terrain.

222: (Q486) The antenna of an airborne weather radar is stabilised….

- o A: in attitude in relation to the horizontal plane.
- o B: in attitude in relation to the vertical plane.
- o C: in pitch only, when 0o tilt is selected.

223: (Q487) A radio altimeter can be defined as a….
- o A: self-contained on-board aid used to measure the true height of the aircraft.
- o B: self-contained on-board aid used to calculate the barometric altitude of the aircraft.
- o C: ground radio aid used to measure the true altitude of the aircraft.

224: (Q488) Modern low altitude radio altimeters emit waves in the following frequency band:
- o A: SHF (Super High Frequency).
- o B: HF (High Frequency).
- o C: UHF (Ultra High Frequency).

225: (Q489) 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 ground at a given barometric pressure.
- o B: aircraft with regard to the runway.
- o C: lowest wheels with regard to the ground at any time.

226: (Q490) For most radio altimeters, when a system error occurs during approach the
- o A: DH lamp flashes red.
- o B: Height indication is removed.
- o C: DH lamp flashes red and the audio signal sounds.

227: (Q491) The data supplied by a radio altimeter:
- o A: indicates the distance between the ground and the aircraft.
- o B: is used by the automatic pilot in the altitude hold mode.
- o C: is used only by the radio altimeter indicator.

228: (Q492) The aircraft radio equipment which emits on a frequency of 4400 MHz is the:
- o A: primary radar.
- o B: weather radar.
- o C: radio altimeter.

229: (Q493) A Radar altimeter system measures altitude….
- o A: in combination with GPS-satellites
- o B: above terrain.
- o C: in relation to sea level.

230: (Q494) What does the term AIR-GROUND COMMUNICATION mean?
- o A: Two-way communication between aircraft and stations or locations on the surface of the earth.
- o B: One-way communication from stations or locations on the surface of the earth.
- o C: Any communication from aircraft to ground station requiring handling by the Aeronautical Fixed Telecommunication Network (AFTN).

231: (Q495) The ADS-B (Automatic Dependent Surveillance Broadcast) digitises the position information derived from….and broadcasts it as part of a data stream.
- o A: R-NAV system.
- o B: INS or IRS.
- o C: GNSS.

232: (Q496) ADS-B: 1. broadcasts information about aircraft, such as identification, current position, altitude and velocity. 2. provides air traffic controllers with real-time position information. 3. receives Flight Information data. 4. receives Traffic Information Service data. 5. receives other ADS-B Out broadcasting aircraft.

- o A: 2, 4 and 5
- o B: 1, 3 and 5.
- o C: 1, 2, 3, 4 and 5.

233: (Q497) What is the Speed of an ARINC 429 system?

- o A: 2 - 6 Gbits/s.
- o B: 100 kbits/s
- o C: 2.3 - 23 Mbits/s

234: (Q498) An ARINC 429 binary coded decimal data word occupies bits

- o A: 11 to 28
- o B: 11 to 29
- o C: 1 to 8

235: (Q499) An ARINC 429 bus uses

- o A: a twisted shielded pair of wires.
- o B: two bi-directional twin sheathed and earthed wires.
- o C: a single tin wire cable for each transmitter.

236: (Q500) ARINC 629 current mode couplers are

- o A: capacitive.
- o B: inductive.
- o C: resistive.

237: (Q501) ARINC 629 data bus is

- o A: two buses, bi-directional data flow.
- o B: one bus, bi-directional data flow.
- o C: two buses, unidirectional.

238: (Q502) In an ARINC 429 wordstring, bits 1 to 8 represent the

- o A: destination LRU address.
- o B: information contained in the data word.
- o C: source of message.

239: (Q503) ARINC 429 SDI word format is at bits

- o A: 1 - 8
- o B: 31 - 32
- o C: 9 - 10

240: (Q504)ACARS messages are sent from the aircraft via:

- o A: a VHF communication transceiver.
- o B: GNSS.
- o C: an UHF communication transceiver.

241: (Q505) The continuous broadcast of recorded non-control information in busier terminal areas (i.e. Airport) is called
- o A: SITA
- o B: ATIS
- o C: ACARS

242: (Q517) Doppler operates on the principle that .(1)..between a transmitter and receiver will cause the received frequency to .(2)..if the transmitter and receiver are moving .(3)..
- o A: (1) relative motion - (2) decrease - (3) apart.
- o B: (1) apparent moving - (2) decrease - (3) together.
- o C: (1) the distance - (2) increase - (3) at the same speed.

243: (Q518) Due to 'Doppler' effect an apparent decrease in the transmitted frequency, which is proportional to the transmitter's velocity, will occur when the transmitter....
- o A: moves away from the receiver.
- o B: moves toward the receiver.
- o C: and receiver move towards each other.

244: (Q519) The Doppler Navigation System is based on....
- o A: radio waves refraction in the ionosphere.
- o B: pulse shift transmission.
- o C: radar principles using frequency shift.

245: (Q520) Exit signs must have ...
- o A: white electrically or self illuminated letters on a black background.
- o B: red letters on a white electrically or self illuminated background.
- o C: black letters on a white electrically or self illuminated background.

246: (Q521) Emergency lightning can be illuminated by....
- o A: automatically when power is removed from the aircraft (in an emergency or by the pilots).
- o B: a guarded three position switch (ON-OFF-ARMED) in the cabin and a Two position switch in the cockpit (ON-NORMAL).
- o C: a guarded three position switch (ON-OFF-ARMED) in the cockpit and a Two position switch in the cabin (ON-NORMAL).

247: (Q522) The capacity of the emergency batteries are capable of providing emergency lighting for a period of at least ...
- o A: 10 minutes.
- o B: 1 minute.
- o C: 1 hour.

248: (Q523) An aircraft with two passenger decks with more than 100 seats per deck is equipped with....
- o A: 1 megaphone.
- o B: 4 megaphones.
- o C: 3 megaphones.

249: (Q524) Which system do you have to use if you want listen music in an aircraft?

o A: the ADF (Automatic Direction Finder) to the frequency of a local commercial AM radio station and then figure out how to couple it to the aircraft PA system.
o B: the VOR (VHF Omni Range) to the frequency of a local commercial FM radio station and then figure out how to couple it to the aircraft PA system.
o C: the VHF radio to the frequency of a local commercial FM radio station and then figure out how to couple it to the aircraft PA system.

250: (Q525) The PA amplifier sets the priority for the audio inputs. Which has the highest priority?
o A: Announcement from the flight compartment.
o B: Announcement from an attendant.
o C: Boarding Music.

251: (Q526) Which priority do announcements from the flight deck have?
o A: Priority 2.
o B: Priority 5.
o C: Priority 1.

252: (Q527) The means of interacting with cabin management computers may involve using remote control devices. What do these remote devices use for communication?
o A: Ethernet.
o B: VLF.
o C: Either infrared (IR) or radio frequency (RF).

253: (Q528) How are the IFES (In-Flight Entertainment System) Ethernet network set of units connected?
o A: Twisted pair wires.
o B: Infrared wires.
o C: Glass fiber connection.

254: (Q529) How is communication from the In Flight Entertainment System to a ground station achieved?
o A: Aircraft Communications Addressing and Reporting System (ACARS).
o B: Selective Calling System (SELCAL).
o C: Automatic Terminal Information System (ATIS).

255: (Q530) How does the IFES (In-Flight Entertainment System) send audio and video signals?
o A: Fibre optics.
o B: A standard 100 Mbit/s fast Ethernet LAN.
o C: A standard 1 Gbit/s fast Ethernet LAN.

256: (Q706) One of the advantages of the OMS (Onboard Maintenance System) is ...
o A: to help the pilots do a minor maintenance task.
o B: to detect and report failure.
o C: to replace the tech log.

257: (Q707) Access to the Central Maintenance Computers is through....
o A: a press-to-test switch on the computer itself.
o B: a control box.
o C: the line select keys on the CDU.

258: (Q708) When a….. is displayed, the aircraft is considered unserviceable (only specific failures are permitted to exist as stated in the MEL).
- o A: Status Message.
- o B: Fault Code.
- o C: Maintenance Message.

259: (Q709) Where is the loaded software held?
- o A: CMC (Central Maintenance Computer) storage device, ready to be reinstalled should something happen that corrupts a particular program.
- o B: On the flight deck, ready to be reinstalled should something happen that corrupts a particular program.
- o C: In a centralized maintenance cabinet, ready to be send and reinstalled should something happen that corrupts a particular program.

260: (Q710) Data loading is a….
- o A: reading information facility.
- o B: writing information facility.
- o C: reading or writing information facility.

261: (Q711) A FMS navigation database is updated
- o A: every 28 days.
- o B: once a month.
- o C: at the operators request.

262: (Q712) The FMS is updated
- o A: by the aircrew by reference to the Tech Log.
- o B: by an aircraft engineer updating the system either by a floppy disc, a CD or even a hard disk.
- o C: automatically by update from the ACARS.

263: (Q713) Which system provides airline flight, maintenance, and cabin crews with instantaneous access to operational manuals, procedures and navigation charts?
- o A: ELS (Electronic Library System).
- o B: OMS (Onboard Maintenance System).
- o C: FMS (Flight Management System).

264: (Q714) Information updates to the airborne system and communications between the ground based and airborne systems are accomplished …
- o A: automatically by update from the ECAM.
- o B: by an aircraft engineer updating the system either by a floppy disc, a CD or even a hard disk.
- o C: through the Gate-link concept.

265: (Q715) 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.
- o C: 1, 2, 3, 4 and 5.

266: (Q716) Direct texts entry for airport directory or word searches on the Electronic Library System is done by ...
- o A: a keyboard underneath the active-matrix liquid display.
- o B: a soft keyboard function, displayed on the liquid display screen.
- o C: the scratch pad on the CDU.

267: (Q717) Information to be printed is sent to the printer ...
- o A: from the CDU (Control Display Unit).
- o B: from the CMC (Central Maintenance Computer).
- o C: from the FMC (Flight Management Computer).

268: (Q718) Defects of the printer are notified ...
- o A: by a fault report to the CMC (Central Maintenance Computer).
- o B: by way of lamps on the front of the panel itself.
- o C: by a fault report to the CDU (Control Display Unit).

269: (Q719) The printer used in the cockpit is....
- o A: a laser printer.
- o B: a dot matrix printer.
- o C: an inktjet printer.

270: (Q720) A permanent monitoring of the vertical acceleration (G-force) of an aircraft during landing is a part of....
- o A: the 'HUMS' (Health and Usage Monitoring System).
- o B: the 'Low Cycle Fatigue Counter'.
- o C: the 'Damage Tolerance Monitoring'.

271: (Q721) Helicopter rotor track and balance is done by
- o A: the 'Low Cycle Fatigue Counter'.
- o B: the 'Damage Tolerance Monitoring System'.
- o C: the 'HUMS' (Health and Usage Monitoring System).

272: (Q722) Which system can also be used to monitor the aircraft's structure and thus identify any faults before they cause catastrophic failure.
- o A: the Electronic library system.
- o B: the Flight Data Recorder.
- o C: the CDU (Control Display Unit).

273: (Q723) Maintenance Information at an out-station can be read from the....
- o A: FMS (Flight Management system).
- o B: Electronic library system.
- o C: CDU (Control Display Unit).

274: (Q727) Communication in the integrated modular avionics network is partly standardized in...
- o A: ARINC 653 for the software avionics and AFDX for the data network bus.
- o B: ARINC 429, ARINC 653 or AFDX.
- o C: ARINC 429 or AFDX (Avionics Full DupleX).

275: (Q728) The standardized Real-Time Operating system used in IMA uses the…..
- o A: RTOS specification.
- o B: ARINC 653 specification.
- o C: ARINC 429 specification.

276: (Q729) An airborne Ethernet electrical cable (AFDX) is
- o A: equipped with 8 pins RJ45 connectors.
- o B: equipped with 4 pins Quadrax connectors.
- o C: equipped with 4 pins RJ45 connectors.

277: (Q730) Which LRU is the interface between the aircraft systems and the ARINC network remote switches and convert network data to the appropriate format.
- o A: AFDX switches.
- o B: Remote Data Concentrators.
- o C: ARINC 664 remote switches.

278: (Q731) For IMA, a faster and duplex data communication protocol was required than the ARINC 429 standard. The new standard is ..
- o A: ARINC 429 duplex.
- o B: AFDX (Avionics Full DupleX).
- o C: ARINC 664.

279: (Q732) The first 2 bytes of the IP address for IMA communication are called …
- o A: the Net ID.
- o B: Host ID.
- o C: Sign Status Matrix (SSM).

280: (Q733) The ARINC 664 Ethernet has a transport rate of …
- o A: 100 megabits per second.
- o B: 100 gigabits per second.
- o C: 100 kilobits per second.

281: (Q734) The core network system has …
- o A: an open data network and an isolated data network.
- o B: an ethernet network and an crew information network.
- o C: an open data network, an isolated data network and an avionics network.

282: (Q735) Which network system routes data between the airplane and ground networks and stores airline data and applications?
- o A: IMA (core network).
- o B: IDN.
- o C: ATIS.

283: (Q736) Airplane system data not critical to flight are connected to the….. In the Core Network System.
- o A: Open Data Network (ODN).
- o B: Crew Wireless LAN Unit (CWLU).
- o C: Common Data Network (CDN).

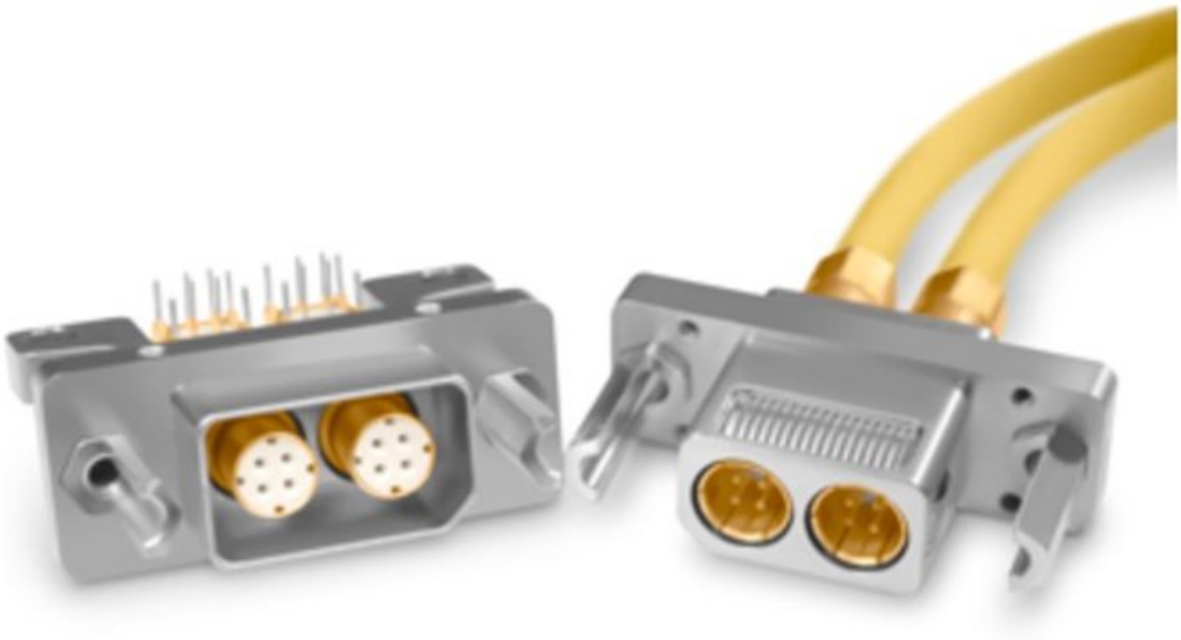
284: (Q737) Airplane system data critical to flight are connected to the….. In the Core Network System.
- o A: Common Data Network (CDN).
- o B: Open Data Network (ODN).
- o C: Isolated Data Network (IDN).

285: (Q738) '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: AFDX (Avionics Full Duplex Switched Ethernet).
- o B: Automatic Dependent Surveillance Broadcast (ADS-B).
- o C: Controller Pilot Data Link communications (CPDLC).

286: (Q739) This is a…. (See the figure)

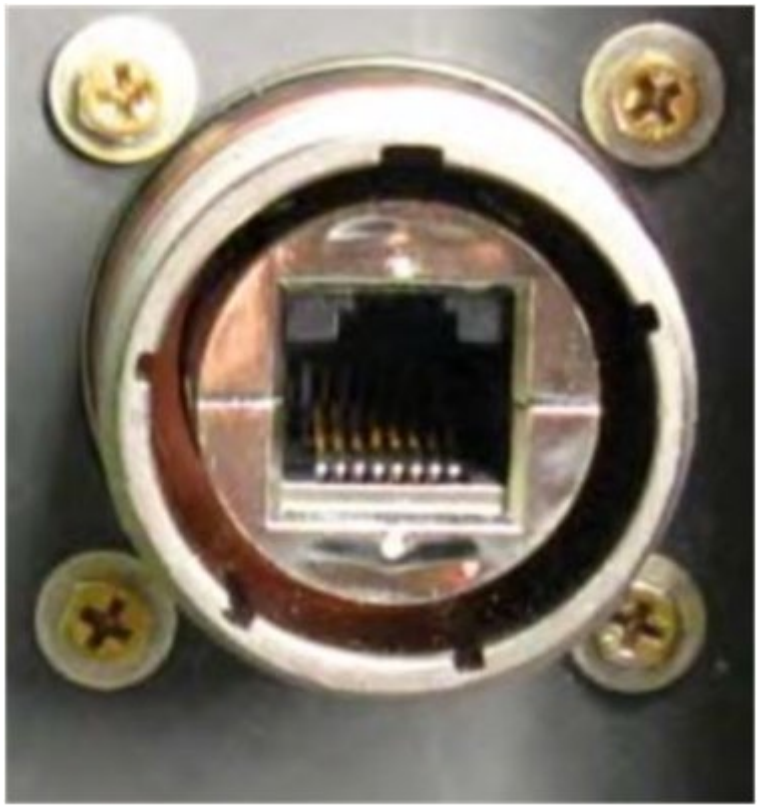
o A: RJ61 connector.
- o B: RJ45 connector.
- o C: RJ12 connector.

287: (Q740) This is a…. (See the figure)



o A: Quadrax connector.
o B: Coaxial connector.
o C: LC connector (fibre optic).

288: (Q741) This is a(n)…. (See the figure)



o A: Ethernet port.

o B: RJ45 port.
o C: Quadrax port.

289: (Q742) The ARINC 664 Ethernet uses ...
o A: a high speed, two way, multiple terminal digital data bus operating at 2 megahertz.
o B: two twisted wire pairs or quad cables as the transport medium for full duplex operation at 100 megabits per second.
o C: a pair of twisted wires with shielding around them for full duplex operation at 2 megahertz.

290: (Q743) What are the three functional domains of IMA (Integrated Modular Avionics)?
o A: Ground, flight and transit.
o B: Flight, navigation and systems.
o C: Cockpit, cabin and utilities.

291: (Q744) The passengers can listen to the selected audio and video channels by connecting a headset to ...
o A: the IFES RJU (Remote Jack Unit).
o B: the IFES SEB (Seat Electronic Box).
o C: the IFES SDU (In-Flight Entertainment System Smart Display Unit).

292: (Q745) What is the primary control interface between the IFES (In Flight Entertainment System) and cabin and maintenance crews?
o A: The IFES CP (Crew Panel).
o B: The IFES AMCU (Advanced Master Control Unit).
o C: The IFES SC (system controller).

293: (Q746) The In-seat audio and video channels and volume can be selected and adjusted by the passenger using the....
o A: IFES AMCU (Advanced Master Control Unit).
o B: IFES PCU (passenger control unit).
o C: IFES SC (In-flight Entertainment System System Controller).

294: (Q747) Which discretes provides the PSEU (Proximity Switch Electronics Unit) to the IFES SC (In-Flight Entertainment System Controller)?
o 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.

295: (Q748) Each Ethernet station is given a 48-bit address. How are the first two fields called?
o A: Parity Bit.
o B: Source/destination Identifier (SDI).
o C: Country Code.

296: (Q749) The inflight entertainment equipment is connected to ...
o A: its own network system, completely isolated from the Core network system.
o B: the ODN (Open Data Network) of the Core network system.
o C: the IDN (Isolated Data Network) of the Core network system.

297: (Q750) Data can be transferred wirelessly from the In-flight Entertainment system on the aircraft to a terminal receiving station on the ground through….

- o A: the ATIS (Automatic Terminal Information Service).
- o B: the ACR (Avionics Communication Router).
- o C: the use of the GSM Cell Data Mode (CDM), also referred to as Cell Modem (CM).

298: (Q751) Data from the In-Flight Entertainment system can be transferred to a terminal station on the ground

- o A: through a wireless GSM Cell Data Modem when the aircraft is at the terminal.
- o B: through an ethernet link when the aircraft is on the ground.
- o C: through an ethernet link when the aircraft is at the terminal.

299: (Q752) 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: a cell modem component and a terminal receiving station..
- o C: an ethernet connection in the aircraft.

300: (Q753) 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 FS (file server).
- o B: The AMCU (Advanced Master Control Unit).
- o C: The ADB (Area Distribution Box).

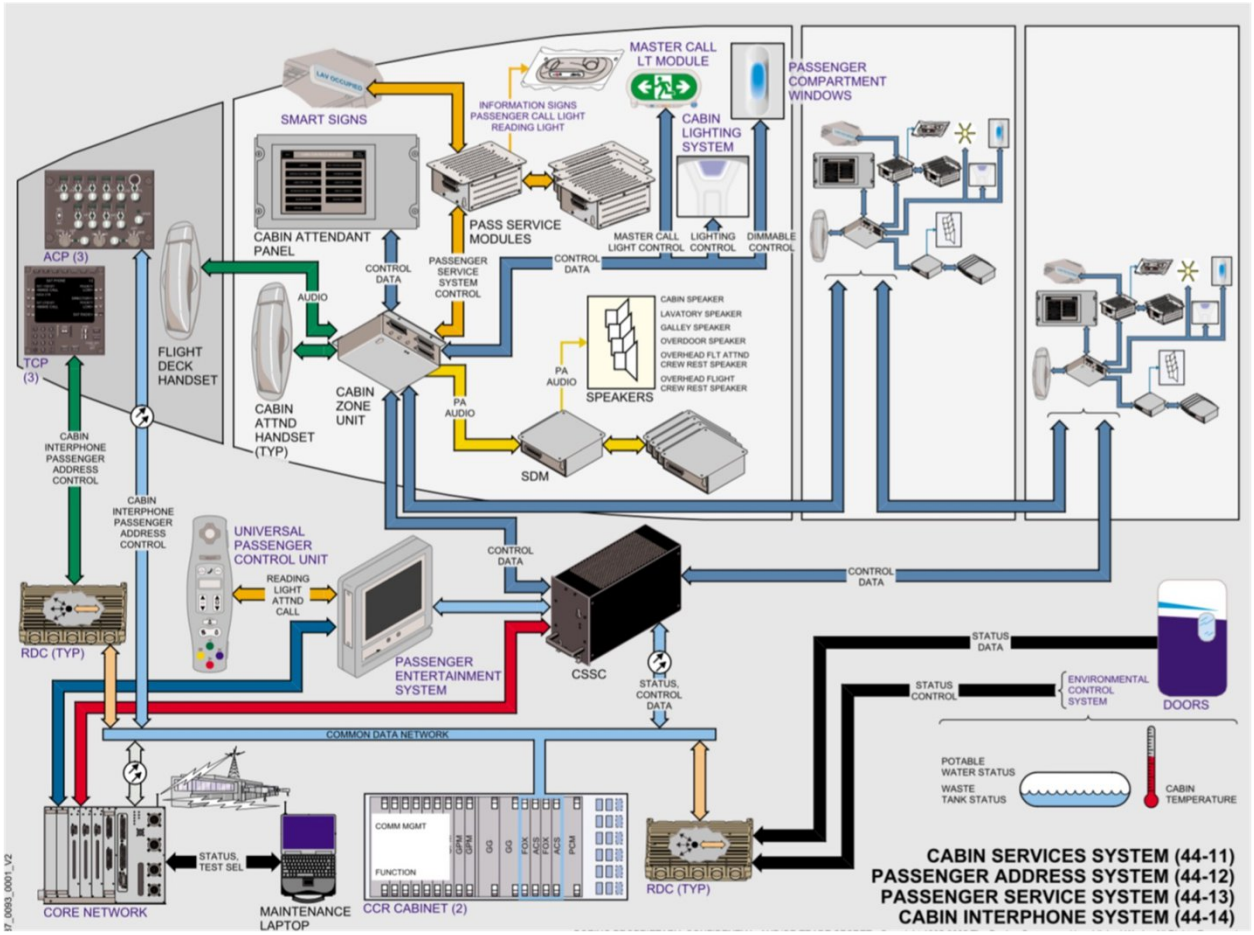
301: (Q754) Which unit gathers information for proximity sensors to determine the flight phase and sends discretes to the System Controller to provide it with flight phase information for the passengers?

- o A: The INS (Inertial Navigation System) or IRS (Inertial Reference system).
- o B: The PSEU (Proximity Switch Electronics Unit).
- o C: The FMS (Flight Management System).

302: (Q755) Which unit lets the crew monitor and control the CSS (Cabin Services System)?

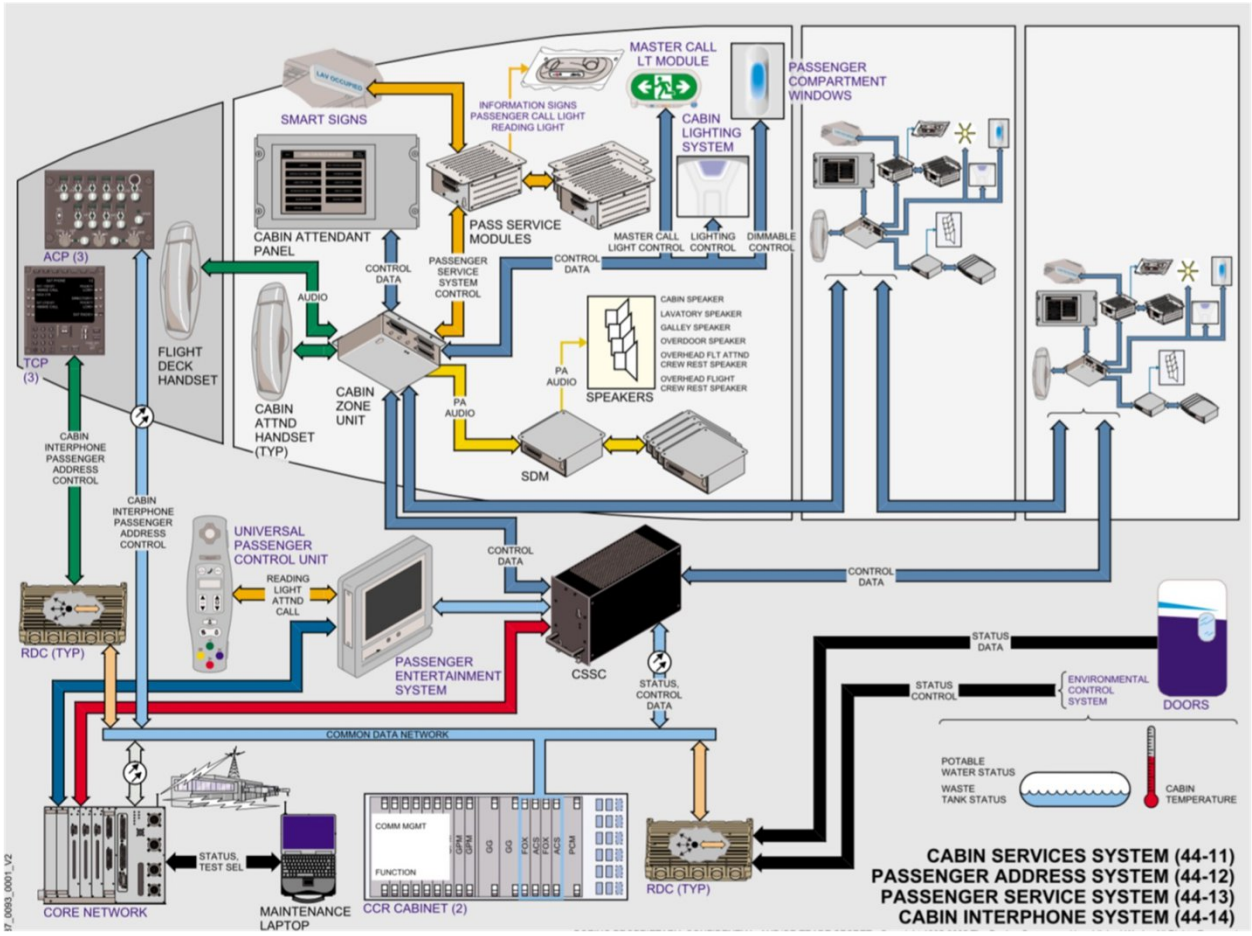
- o A: The PCU (Passenger Control Unit).
- o B: The SDU (Smart Display Unit).
- o C: The CAP (Cabin Attendant Panel).

303: (Q756) The information signs are controlled from the cabin configuration software inside the…. (See the figure)



o A: Cabin Attendant Panel.
  o B: Cabin Services System Controller.
  o C: Passenger Control Unit.

304: (Q757) The seating and zones are controlled from the cabin configuration software inside the…. (See figure)



o A: Cabin Attendant Panel.
o B: Passenger Control Unit.
o C: Cabin Services System Controller.

305: (Q758) 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 Crew Panel.
o B: the IFES File Server.
o C: the IFES Advanced Master Control Unit (AMCU).

306: (Q759) Which item handles all of the on-demand applications available to passengers?
o A: the IFES Crew Panel.
o B: the IFES Advanced Master Control Unit (AMCU).
o C: the IFES File Server.

307: (Q760) 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.
o B: open world diode.
o C: ethernet gateway module.

308: (Q761) Switching from avionics to flight operation domain is the OIS (On board Information System) is done by....
- o A: OIT side switches.
- o B: OIT Terminal processor unit.
- o C: OIT control device.

309: (Q762) What is the main protocol of communication in the open world?
- o A: ARINC 629.
- o B: ARINC 429.
- o C: Ethernet.

310: (Q763) Data on the USB keys (for data loading) is stored under the ...
- o A: ARINC 429 format.
- o B: ARINC 629 format.
- o C: ARINC 615A format.

311: (Q764) 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: ADS-B (Automatic Dependent Surveillance Broadcast).
- o C: Mode S transponder.

312: (Q765) Documentation (FCOM, MEL, AFM, CDL) is part of the ...
- o A: Avionics Domain.
- o B: Flight Operations Domain.
- o C: Communication & Cabin Domain.

313: (Q766) A pre-departure clearance or PDC is given to the pilots via....
- o A: voice (from ATC).
- o B: the datalink system.
- o C: an ACARS message.

314: (Q767) Recording capability of aircraft parameters is part of the ...
- o A: Communication & Cabin Domain.
- o B: Flight Operations Domain.
- o C: Avionics Domain.

315: (Q768) On which system are scheduled maintenance tasks shown when a time or cycle limit occurs in an airplane system?
- o A: only on the maintenance laptop.
- o B: on the maintenance laptop and the electronic flight bags.
- o C: on the multifunction displays, the electronic flight bags and the maintenance laptop.

316: (Q769) Which system (of the core network system) collects, correlates, stores and shows fault information for most airplane systems.
- o A: common data network (CDN).
- o B: crew information system.
- o C: central maintenance computing function.

317: (Q770) 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.
- o B: A scheduled fault message.
- o C: A maintenance memo.

318: (Q771) Documentation for the IFE (In-Flight Entertainment) System is part of the…
- o A: Communication & Cabin Domain
- o B: Flight Operations Domain.
- o C: Avionics Domain

319: (Q772) A passenger with a laptop can access to e-mail and internet applications in the…
- o A: Avionics Domain.
- o B: Flight Operations Domain.
- o C: Communication & Cabin Domain.

320: (Q773) Which communication system let the flight crew request and obtain information about meteorological parameters (weather, wind, visibility, clouds,….)?
- o A: ATIS (Automatic Terminal Information System).
- o B: FANS (Future Air Navigation Systems).
- o C: Automatic Dependent Surveillance Broadcast

321: (Q774) All the last generation aircraft use flight control systems. The FMS is the most advanced system. It can be defined as a….
- o A: 2-axis Flight Management System.
- o B: management system optimized in the horizontal plane.
- o C: 3-axis Flight Management System.