01-BASIC RADIO

Question 1 of 188

Number: 3145

Question: A radio signal loses strength as range from the transmitter increases, this is called:

1. refraction
2. attenuation ✓
3. ducting
4. propagation

Question 2 of 188

Number: 16870

Question: Comparing a parabolic reflector with a flat plate antenna of the same size

1. the flat plate antenna has a considerably smaller beam width.
2. the parabolic reflector has a considerably smaller beam width.
3. the parabolic reflector generates less side lobes than the flat plate antenna.
4. the flat plate antenna generates less side lobes than the parabolic reflector. ✓

Question 3 of 188

Number: 16460

Question: The skip distance of HF-transmission will increase with:

1. lower frequency and lower position of the reflecting ionospheric layer.
2. higher frequency and higher position of the reflecting ionospheric layer. ✓
3. lower frequency and higher position of the reflecting ionospheric layer.
4. higher frequency and lower position of the reflecting ionospheric layer.

Question 4 of 188

Number: 313

Question: Which of the following will give the most accurate calculation of aircraft ground speed?

1. An ADF sited on the flight route
2. A DME station sited on the flight route ✓
3. A DME station sited across the flight route
4. A VOR station sited on the flight route

Question 5 of 188

Number: 336

Question: What is the approximate angular coverage of reliable navigation information for a 3° ILS glide path out to a minimum distance of 10 NM?

1. 0.7° above and below the glide path and 2.5° each side of the localiser centreline
2. 3° above and below the glide path and 10° each side of the localiser centreline
3. 1.35° above the horizontal to 5.25° above the horizontal and 8° each side of the localiser centreline
4. 0.45° above the horizontal to 1.75° above the glide path and 8° each side of the localiser centreline ✓

Question 6 of 188

Number: 337

Question: ILS is subject to false glide paths resulting from:

1. ground returns ahead of the antennas
2. multiple lobes of radiation patterns in the vertical plane ✓
3. spurious signals reflected by nearby obstacles
4. back-scattering of antennas

Question 7 of 188

Number: 253

Question: An RMI indicates aircraft heading and bearing. To convert the RMI bearings of NDBs and VORs to true bearings the correct combination for the application of magnetic variation is:

1. NDB: beacon position VOR: beacon position
2. NDB: aircraft position VOR: aircraft position
3. NDB: beacon position VOR: aircraft position
4. NDB: aircraft position VOR: beacon position ✓

Question 8 of 188

Number: 254

Question: An aircraft is flying on the true track 090° towards a VOR station located near the equator where the magnetic variation is 15°E. The variation at the aircraft position is 8°E. The aircraft is on VOR radial:

1. 262°
2. 278°
3. 285°
4. 255° ✓

Question 9 of 188

Number: 255

Question: Given: Magnetic heading 280° VOR radial 090° What bearing should be selected on the omni-bearing selector in order to centralise the VOR deviation needle with a "TO" indication?

1. 090°
2. 270° ✓
3. 100°
4. 280°

Question 10 of 188

Number: 256

Question: A VOR is sited at position 58°00'N 073°00'W where the magnetic variation equals 32°W. An aircraft is located at position 56°00'N 073°00'W where the magnetic variation equals 28°W. The aircraft is on VOR radial:

1. 208
2. 212 ✓
3. 180
4. 360

Question 11 of 188

Number: 257

Question: In order to plot a bearing from a VOR station, a pilot needs to know the magnetic variation:

1. at the aircraft location
2. at the half-way point between the aircraft and the station
3. at both the VOR and aircraft
4. at the VOR ✓

Question 12 of 188

Number: 260

Question: A DME is located at MSL. An aircraft passing vertically above the station at flight level FL 360 will obtain a DME range of approximately:

1. 6 NM ✓
2. 11 NM
3. 8 NM
4. 7 NM

Question 13 of 188

Number: 261

Question: During a flight at FL 210, a pilot does not receive any DME distance indication from a DME station located approximately 220 NM away. The reason for this is that the:

1. range of a DME system is always less than 200 NM
2. aeroplane is circling around the station
3. altitude is too high
4. aeroplane is below the 'line of sight' altitude ✓

Question 14 of 188

Number: 881

Question: A DME station is located 1000 feet above MSL. An aircraft flying at FL 370 in ISA conditions which is 15 NM away from the DME station, will have a DME reading of:

1. 16 NM ✓
2. 15 NM
3. 17 NM
4. 14 NM

Question 15 of 188

Number: 871

Question: A VOR is sited at position A (45°00'N, 010°00'E). An aircraft is located at position B (44°00'N, 010°00'E). Assuming that the magnetic variation at A is 10°W and at B is 15°W, the aircraft is on VOR radial:

1. 195°
2. 185°
3. 180°
4. 190° ✓

Question 16 of 188

Number: 3229

Question: Which of the following is the ICAO allocated frequency band for ADF receivers?

1. 200 - 2000 kHz

2. 255 - 455 kHz
3. 190 - 1750 kHz
4. 300 - 3000 kHz

Question 17 of 188

Number: 3075

Question: Where, in relation to the runway, is the ILS localiser transmitting aerial normally situated?

1. On the non-approach end of the runway about 300 m from the runway on the extended centreline
2. At the approach end of the runway about 300 m from touchdown on the centreline
3. At the approach end about 150 m to one side of the runway and 300 m from touchdown
4. At the non-approach end about 150 m to one side of the runway and 300 m along the extended centreline

Question 18 of 188

Number: 3077

Question: There are two NDBs, one 20 NM inland, and the other 50 NM inland from the coast. Assuming that the error caused by coastal refraction is the same for both propagations, the extent of the error in a position line plotted by an aircraft that is over water

1. greater from the beacon that is 50 NM inland
2. the same from both beacons when the aircraft is on a relative bearing of 090° and 270°
3. greater from the beacon that is 20 NM inland
4. the same from both beacons when the aircraft is on a relative bearing of 180° and 360°

Question 19 of 188

Number: 2330

Question: The VOR system is limited to about 1° of accuracy. One degree at 200 NM represents a width of:

1. 2.0 NM
2. 3.0 NM
3. 3.5 NM
4. 2.5 NM

Question 20 of 188

Number: 2331

Question: An aircraft is "homing" to a radio beacon whilst maintaining a relative bearing of zero. If the magnetic heading decreases, the aircraft is experiencing:

1. left drift
2. right drift
3. a wind from the west
4. zero drift

Question 21 of 188

Number: 2332

Question: In its basic type, a dipole antenna adapted for a frequency of 110MHz will have a wire length of:

1. 136cm
2. 205cm
3. 273cm
4. 91cm

Question 22 of 188

Number: 2651

Question: What approximate rate of descent is required in order to maintain a 3° glidepath at a groundspeed of 90 kt?

1. 600 FT/MIN
2. 450 FT/MIN
3. 700 FT/MIN
4. 400 FT/MIN

Question 23 of 188

Number: 2483

Question: In which frequency band do VOR transmitters operate?

1. EHF
2. UHF
3. SHF
4. VHF

Question 24 of 188

Number: 2485

Question: What is the wavelength of an NDB transmitting on 375 kHZ?

1. 800 m
2. 80 m
3. 8 m
4. 8000 m

Question 25 of 188

Number: 2486

Question: In which frequency band does an ILS glide slope transmit?

1. VHF
2. EHF
3. SHF
4. UHF

Question 26 of 188

Number: 2487

Question: Which of the following is likely to have the greatest effect on ADF accuracy?

1. Interference from other NDBs, particularly at night
2. Mutual interference between aircraft aerials

3. Frequency drift at the ground station
4. Interference from other NDBs, particularly during the day

Question 27 of 188

Number: 2488

Question: Assuming a five dot display on either side of the CDI on the ILS localiser cockpit display, what does each of the dots represent approximately ?:

1. 2.0 degrees
2. 2.5 degrees
3. 1.5 degrees
4. 0.5 degrees ✓

Question 28 of 188

Number: 2489

Question: Outer marker transmits on 75 MHz and has an aural frequency of:

1. 3000 Hz
2. 2000 Hz
3. 1300 Hz
4. 400 Hz ✓

Question 29 of 188

Number: 2490

Question: The two signals transmitted by a conventional VOR ground station are 90° out of phase on magnetic:

1. east ✓
2. west
3. south
4. north

Question 30 of 188

Number: 2492

Question: An aircraft is flying on a heading of 270°(M). The VOR OBS is also set to 270° with the full left deflection and FROM flag displayed. In which sector is the aircraft from the VOR ground station?

1. NE
2. SE
3. SW
4. NW ✓

Question 31 of 188

Number: 2493

Question: An Omni-bearing selector (OBS) shows full deflection to the left when within range of a serviceable VOR. What angular deviation are you from the selected radial?

1. less than 10°
2. 2.5 or more
3. 10° or more ✓
4. 1.5° or more

Question 32 of 188

Number: 2763

Question: Which one of the following is an advantage of a Microwave Landing System (MLS) compared with an Instrument Landing System (ILS)?

1. It does not require a separate azimuth (localiser) and elevation (azimuth) transmitter
2. It is insensitive to geographical site and can be installed at sites where it is not possible to use an ILS

3. There is no restriction on the number of ground installations that can be operated because there is an unlimited number of frequency channels available
4. The installation does not require to have a separate method (marker beacons or DME) to determine range

Question 33 of 188

Number: 2767

Question: The azimuth transmitter of a Microwave Landing System (MLS) provides a fan-shaped horizontal approach zone which is usually:

1. + or - 60° of the runway centre-line
2. + or - 30° of the runway centre-line

3. + or - 40° of the runway centre-line
4. + or - 50° of the runway centre-line

Question 34 of 188

Number: 2771

Question: Which of the following statements concerning the variable, or directional, signal of a conventional VOR is correct?

1. The rotation of the variable signal at a rate of 30 times per second gives it the characteristics of a 30 Hz amplitude modulation

2. The receiver adds 30 Hz to the variable signal before combining it with the reference signal
3. The transmitter changes the frequency of the variable signal by 30 Hz either side of the allocated frequency each time it rotates
4. The transmitter varies the amplitude of the variable signal by 30 Hz each time it rotates

Question 35 of 188

Number: 2774

Question: The maximum theoretical range at which an aircraft at FL230 may receive signals from a VOR facility sited at mean sea level is:

1. 170 NM
2. 151 NM

3. 190 NM
4. 230 NM

Question 36 of 188

Number: 12809

Question: What actually happens in the ADF receiver when the BFO position is selected?

1. The BFO circuit is activated, and the receiver accepts only A1A modulated signals.
2. The BFO circuit is de-activated.

3. The BFO circuit imposes a tone onto the carrier wave to make the NDB's ident audible. ✓
4. The BFO circuit oscillates at an increased frequency in order to allow identification of A2A NDBs.

Question 37 of 188

Number: 12869

Question: If a failed RMI rose is stuck on 090° and the ADF pointer indicates 225°, the relative bearing to the station will be:

1. Impossible to read, due to the RMI failure.
2. 315°.
3. 225°.
4. 135°. ✓

Question 38 of 188

Number: 12873

Question: Full scale deflection of the localiser needle indicates that the aircraft is approximately:

1. 2.5° offset from the localiser centreline. ✓
2. 10° offset from the localiser centreline.
3. 5° offset from the localiser centreline.
4. 1.25° offset from the localiser centreline.

Question 39 of 188

Number: 12876

Question: In order to measure the radial from a VOR, the aircraft VOR receiver

1. measures the phase difference between the reference phase and the variable phase of the signal. ✓
2. measures the time difference between sending the interrogation signal and receiving the transponder signal.
3. uses pulse technique to determine the radial.
4. measures the time difference between reception of the two signals transmitted from the ground installation.

Question 40 of 188

Number: 12877

Question: Assuming a five dot display on either side of the ILS localiser cockpit display, what is the angular displacement of the aircraft from the localiser centreline when the CDI is deflected 2 dots to the right?

1. 1.0° to the right.
2. 1.0° to the left. ✓
3. 2.0° to the right.
4. 2.0° to the left.

Question 41 of 188

Number: 12879

Question: An NDB is on a relative bearing of 316° from an aircraft. Given: Compass heading 270° At aircraft deviation 2°W, Variation 30°E At station Variation 28°E, Calculate the true bearing of the NDB from the aircraft

1. 074°
2. 252°
3. 072°
4. 254° ✓

Question 42 of 188

Number: 12880

Question: An aircraft, on a heading of 180°M is on a bearing of 270°M from a VOR. The bearing you should select on the OMNI bearing selector to centralise the VOR/ILS left/right deviation needle with a TO indication is:

1. 180°
2. 090° ✓
3. 360°
4. 270°

Question 43 of 188

Number: 12884

Question: Full deflection on a glide slope indicator indicates that the aircraft is:

1. 0.5° above or below the correct glide path.
2. 0.7° above or below the correct glide path. ✓
3. 1.25° above or below the correct glide path.
4. 2.5° above or below the correct glide path.

Question 44 of 188

Number: 12885

Question: On what carrier frequency does the inner marker transmit?

1. 3000 Hz.
2. 75 MHz. ✓
3. Same frequency as the localizer.
4. Same frequency as the glide path.

Question 45 of 188

Number: 12889

Question: The indicated range from a DME station is:

1. ground range.
2. ground range only if the beacon is co-located with VOR.
3. 0 when passing overhead the station.
4. slant range. ✓

Question 46 of 188

Number: 12895

Question: According to ICAO 8168, what is regarded as the maximum safe deviation below the glide path during ILS approach?

1. Half scale deflection.
2. Three quarter scale deflection.
3. Full scale deflection.
4. One quarter scale deflection.

Question 47 of 188

Number: 12903

Question: On which of the following displays are you able to get a direct read-out (no calculation is necessary from the pilot) of the magnetic bearing from the aircraft to the NDB?

1. Moving card ADF and RMI.
2. Fixed card ADF and RMI.
3. Fixed card ADF only.
4. Moving and fixed card ADF.

Question 48 of 188

Number: 12679

Question: Which of the following is correct regarding the range of an NDB?

1. The range of an NDB will most likely increase at day time compared to night time.
2. The transmitter power of the NDB station has no affect on the range.
3. The range is limited to the line of sight.
4. Aircraft height is not limiting for the reception of signals from the NDB.

Question 49 of 188

Number: 12681

Question: Which of the following errors is associated with the use of VOR?

1. Coastal refraction.
2. Night effect.
3. Scalloping.
4. Quadrantal error.

Question 50 of 188

Number: 12683

Question: Which of the following alternatives is correct regarding audio- and visual signals in cockpit when passing overhead a middle marker?

1. Audio: 75 MHz, 2 dashes per second. Visual: Blue light flashes.
2. Audio: 3000 Hz, alternating dots and dashes. Visual: Amber light flashes.
3. Audio: 400 Hz, 2 dashes per second. Visual: Blue light flashes.
4. Audio: 1300 Hz, alternating dots and dashes. Visual: Amber light flashes.

Question 51 of 188

Number: 12687

Question: What is the audio frequency of the inner marker?

1. 3000 Hz

2. 1300 Hz
3. 75 MHz
4. 400 Hz

Question 52 of 188

Number: 12689

Question: What is measured in order to establish aircraft position in relation to the localizer beam on an ILS?

1. The difference in time between the 90Hz modulation and the 150Hz modulation.
2. The bearing to the localizer antenna found by means of a loop antenna.
3. The difference in phase between the 90Hz modulation and the 150Hz modulation.
4. The difference in depth between the 90Hz modulation and the 150Hz modulation. ✓

Question 53 of 188

Number: 12691

Question: What are the modulation frequencies of the two overlapping lobes that are used on an ILS approach?

1. 90 HZ 150 HZ ✓
2. 63 mHZ 123 mHZ
3. 75kHZ 135 kHZ
4. 328mHZ 335 mHZ

Question 54 of 188

Number: 12692

Question: Which of the following correctly describes the Instrument Landing System (ILS) localiser radiation pattern?

1. Two overlapping lobes on different radio carrier frequencies but with the same modulation
2. Two overlapping lobes on the same VHF carrier frequency ✓
3. A pencil beam comprising a series of smaller beams each carrying a different modulation
4. Two overlapping lobes on the same UHF carrier frequency

Question 55 of 188

Number: 12701

Question: Which one is the most correct statement regarding the range of the DME system?

1. Operates on the principle of phase comparison.
2. Has unlimited range due to ground wave propagation.
3. Operates on VHF.
4. Range within "line of sight", and maximum 200 Nm. ✓

Question 56 of 188

Number: 12941

Question: According to ICAO Annex 10, in which frequency band(s) does a locator normally transmit?

1. HF/VHF
2. MF/HF
3. LF/MF ✓
4. HF

Question 57 of 188

Number: 12924

Question: What according to ICAO Annex 10 is the range of a locator?

1. 100 - 300 NM
2. 10 - 25 NM 
3. 25 - 50 NM
4. 50 - 100 NM

Question 58 of 188

Number: 1478

Question: What is the approximate maximum theoretical range at which an aircraft at FL130 could receive information from a VDF facility which is sited 1024 FT above MSL?

1. 150 NM
2. 220 NM
3. 180 NM 
4. 120 NM

Question 59 of 188

Number: 1480

Question: A radio beacon has an operational range of 10 NM. By what factor should the transmitter power be increased in order to achieve an operational range of 20 NM?

1. Four 
2. Six
3. Two
4. Eight

Question 60 of 188

Number: 1481

Question: 'Night Effect' which causes loss of signal and fading, resulting in bearing errors from NDB transmissions, is due to:

1. the effect of the Aurora Borealis
2. interference from other transmissions and is maximum at dusk when east of the NDB
3. static activity increasing at night particularly in the lower frequency band
4. skywave distortion of the null position and is maximum at dawn and dusk 

Question 61 of 188

Number: 1482

Question: Quadrantal errors associated with aircraft Automatic Direction Finding (ADF) equipment are caused by:

1. misalignment of the loop aerial
2. signal bending by the aircraft metallic surfaces 
3. skywave/groundwave contamination
4. signal bending caused by electrical interference from aircraft wiring

Question 62 of 188

Number: 1483

Question: Errors caused by the effect of coastal refraction on bearings at lower altitudes are maximum when the NDB is:

1. near the coast and the bearing crosses the coast at right angles
2. near the coast and the bearing crosses the coast at an acute angle
3. inland and the bearing crosses the coast at an acute angle ✓
4. inland and the bearing crosses the coast at right angles

Question 63 of 188

Number: 1484

Question: The principle used in VOR bearing measurement is:

1. difference in depth of modulation
2. phase comparison ✓
3. envelope matching
4. beat frequency discrimination

Question 64 of 188

Number: 1485

Question: Which frequency band is used by VOR transmissions?

1. HF
2. VHF ✓
3. SHF
4. UHF

Question 65 of 188

Number: 1486

Question: Transmissions from VOR facilities may be adversely affected by:

1. night effect
2. static interference
3. quadrantal error
4. uneven propagation over irregular ground surfaces ✓

Question 66 of 188

Number: 1487

Question: If VOR bearing information is used beyond the published protection range, errors could be caused by:

1. interference from other transmitters ✓
2. sky wave interference from distant transmitters on the same frequency
3. noise from precipitation static exceeding the signal strength of the transmitter
4. sky wave interference from the same transmitter

Question 67 of 188

Number: 1488

Question: You are flying along an airway which is 10 NM wide (5 NM either side of the centreline). The distance to the VOR/DME you are using is 100 NM. If you are on the airway boundary, how many dots deviation will the VOR needle show if one dot represents 2 degrees?

1. 3.0

2. 6.0
3. 1.5 ✓
4. 4.5

Question 68 of 188

Number: 1490

Question: An aircraft is required to approach a VOR via the 104° radial. Which of the following settings should be made on the VOR/ILS deviation indicator?

1. 284° with the TO flag showing ✓
2. 104° with the FROM flag showing
3. 284° with the FROM flag showing
4. 104° with the TO flag showing

Question 69 of 188

Number: 1492

Question: An aircraft is required to approach a VOR station via the 244° radial. In order to obtain correct sense indications the deviation indicator should be set to:

1. 244° with the TO flag showing
2. 244° with the FROM flag showing
3. 064° with the TO flag showing ✓
4. 064° with the FROM flag showing

Question 70 of 188

Number: 1493

Question: What is the maximum theoretical range that an aircraft at FL150 can receive signals from a VOR situated 609 feet above MSL?

1. 147 NM
2. 156 NM
3. 184 NM ✓
4. 220 NM

Question 71 of 188

Number: 1494

Question: Which of the following frequencies is within the DME frequency band?

1. 100 MHz
2. 100 GHz
3. 1000 MHz ✓
4. 10 MHz

Question 72 of 188

Number: 1496

Question: For a conventional DME facility 'Beacon Saturation' will occur whenever the number of aircraft interrogations exceeds:

1. 80

2. 100
3. 200
4. 60

Question 73 of 188

Number: 1500

Question: The design requirements for DME-N stipulate that, at a range of 100 NM, the maximum systematic error should not exceed:

1. + or - 1.25 NM
2. + or - 3 NM
3. + or - 0.25 NM
4. + or - 1.5 NM

Question 74 of 188

Number: 1501

Question: In which situation will speed indications on an airborne Distance Measuring Equipment (DME) most closely represent the groundspeed of an aircraft flying at FL400?

1. When overhead the station, with no change of heading at transit
2. When tracking directly towards the station at a range of 100 NM or more
3. When tracking directly away from the station at a range of 10 NM
4. When passing abeam the station and within 5 NM of it

Question 75 of 188

Number: 1502

Question: The time taken for the transmission of an interrogation pulse by a Distance Measuring Equipment (DME) to travel to the ground transponder and return to the airborne receiver was 2000 micro-second. The slant range from the ground transponder was:

1. 158 NM
2. 296 NM
3. 186 NM
4. 330 NM

Question 76 of 188

Number: 1503

Question: A Category 1 Instrument Landing System (ILS) ground installation provides accurate guidance from coverage limit down to:

1. 200 feet above the runway threshold
2. runway surface
3. 50 feet above ILS reference point
4. 200 feet above the inner marker

Question 77 of 188

Number: 1504

Question: The reason why pre take-off holding areas are sometimes further from the active runway when ILS Category 2 and 3 landing procedures are in progress than during good weather operations is:

1. aircraft manoeuvring near the runway may disturb guidance signals
2. to increase aircraft separation in very reduced visibility conditions
3. heavy precipitation may disturb guidance signals
4. to increase distance from the runway during offset approach operations

Question 78 of 188

Number: 1505

Question: An aircraft tracking to intercept the Instrument Landing System (ILS) localiser inbound on the approach side, outside the published ILS coverage angle:

1. may receive false course indications
2. can expect signals to give correct indications
3. only glide path information is available
4. will receive signals without identification coding

Question 79 of 188

Number: 1506

Question: The MIDDLE MARKER of an Instrument Landing System (ILS) facility is identified audibly and visually by a series of:

1. alternate dots and dashes and an amber light flashing
2. two dashes per second and a blue light flashing
3. dashes and an amber light flashing
4. dots and a white light flashing

Question 80 of 188

Number: 1507

Question: The OUTER MARKER of an Instrument Landing System (ILS) facility transmits on a frequency of:

1. 75 MHz and is modulated by alternate dot/dash in morse
2. 200 MHz and is modulated by alternate dot/dash in morse
3. 300 MHz and is modulated by morse at two dashes per second
4. 75 MHz and is modulated by morse at two dashes per second

Question 81 of 188

Number: 1508

Question: What approximate rate of descent is required in order to maintain a 3° glide path at a groundspeed of 120 kt?

1. 950 FT/MIN
2. 600 FT/MIN
3. 800 FT/MIN
4. 550 FT/MIN

Question 82 of 188

Number: 2050

Question: An RMI slaved to a remote indicating compass has gone unserviceable and is locked on to a reading of 090°. The tail of the VOR pointer shows 135°. The available information from the VOR is:

1. Radial 315°, relative bearing unknown

2. Radial unknown, relative bearing 225°
3. Radial 135°, relative bearing unknown
4. Radial unknown, relative bearing 045°

Question 83 of 188

Number: 2210

Question: What is the colour sequence when passing over an Outer, Middle and Inner Marker beacon?

1. amber - white - green
2. blue - amber - white
3. blue - green - white
4. white - amber - blue

Question 84 of 188

Number: 3231

Question: ICAO specifications are that range errors indicated by Distance Measuring Equipment (DME-N) should not exceed:

1. + or - 0.25 NM plus 3% of the distance measured up to a maximum of 5 NM
2. + or - 0.5 NM or 3% of the distance measured whichever is the greater
3. + or - 1.25 NM plus 0.25% of the distance measured
4. + or - 0.25 NM plus 1.25% of the distance measured

Question 85 of 188

Number: 3232

Question: In order to obtain an ADF bearing on a system using sense and loop aerials, the:

1. signal must be received by both the sense and loop aerials
2. BFO switch must be selected to 'ON'
3. sense aerial must be tuned separately
4. mode selector should be switched to 'loop'

Question 86 of 188

Number: 3233

Question: Every 10 kt decrease in groundspeed, on a 3° ILS glidepath, will require an approximate:

1. increase in the aircraft's rate of descent of 100 FT/MIN
2. increase in the aircraft's rate of descent of 50 FT/MIN
3. decrease in the aircraft's rate of descent of 100 FT/MIN
4. decrease in the aircraft's rate of descent of 50 FT/MIN

Question 87 of 188

Number: 3234

Question: MLS installations notified for operation, unless otherwise stated, provide azimuth coverage of:

1. + or - 40° about the nominal courseline out to a range of 20 NM
2. + or - 20° about the nominal courseline out to a range of 10 NM
3. + or - 40° about the nominal courseline out to a range of 30 NM

4. + or - 20° about the nominal courseline out to a range of 20 NM

Question 88 of 188

Number: 3237

Question: Instrument Landing Systems (ILS) Glide Paths provide azimuth coverage (i).... ° each side of the localiser centre-line to a distance of (ii).... NM minimum from the threshold.

1. (i) 35 (ii) 25
2. (i) 8 (ii) 10 ✓
3. (i) 5 (ii) 8
4. (i) 25 (ii) 17

Question 89 of 188

Number: 3238

Question: The rate of descent required to maintain a 3.25° glide slope at a groundspeed of 140 kt is approximately:

1. 850 FT/MIN
2. 700 FT/MIN
3. 670 FT/MIN
4. 760 FT/MIN ✓

Question 90 of 188

Number: 3240

Question: Factors liable to affect most NDB/ADF system performance and reliability include:

1. coastal refraction - lane slip - mountain effect
2. static interference - station interference - latitude error
3. static interference - night effect - absence of failure warning system ✓
4. height error - station interference - mountain effect

Question 91 of 188

Number: 3246

Question: In ISA conditions, approximately what is the maximum theoretical range at which an aircraft at FL210 may expect to receive signals from a VOR facility sited 340 feet above mean sea level ?

1. 183 NM
2. 245 NM
3. 204 NM ✓
4. 163 NM

Question 92 of 188

Number: 3247

Question: An aircraft carrying out an ILS approach is receiving more 90 Hz than 150 Hz modulation notes from both the localiser and glidepath transmitters. The ILS indication will show:

1. Fly right and fly down ✓
2. Fly right and fly up
3. Fly left and fly up
4. Fly left and fly down

Question 93 of 188

Number: 3248

Question: An aircraft is flying a 3° glidepath and experiences a reduction in groundspeed from 150 kt at the outer marker to 120 kt over the threshold. The effect of this change in groundspeed on the aircraft's rate of descent will be a decrease of approximately:

1. 50 FT/MIN
2. 100 FT/MIN
3. 150 FT/MIN ✓
4. 250 FT/MIN

Question 94 of 188

Number: 3254

Question: The principle of operation of an ILS localiser transmitter is based on two overlapping lobes that are transmitted on (i)..... frequencies and carry different (ii).....

1. (i) different (ii) modulation frequencies
2. (i) the same (ii) modulation frequencies ✓
3. (i) different (ii) phases
4. (i) the same (ii) phases

Question 95 of 188

Number: 3302

Question: If an aircraft flies along a VOR radial it will follow a:

1. great circle track ✓
2. line of constant bearing
3. constant magnetic track
4. rhumbline track

Question 96 of 188

Number: 3305

Question: What is the minimum level (ISA conditions) that an aircraft, at a range of 113 NM, must fly in order to contact the tower on R/T for a VDF bearing from an airport sited 169 FT above MSL?

1. FL80
2. FL50
3. FL100
4. FL60 ✓

Question 97 of 188

Number: 3306

Question: An aircraft is on radial 120 with a magnetic heading of 300°, the track selector (OBS) reads: 330. The indications on the Course Deviation Indicator (CDI) are 'fly':

1. right with 'FROM' showing
2. left with 'FROM' showing
3. right with 'TO' showing
4. left with 'TO' showing ✓

Question 98 of 188

Number: 3307

Question: A DME in tracking mode subsequently experiences a reduction in signal strength will switch the equipment in the first instance to:

1. search mode
2. memory mode ✓
3. standby mode
4. signal controlled search

Question 99 of 188

Number: 3308

Question: Which one of the following disturbances is most likely to cause the greatest inaccuracy in ADF bearings?

1. Precipitation interference
2. Quadrantal error
3. Coastal effect
4. Local thunderstorm activity ✓

Question 100 of 188

Number: 3312

Question: The frequency range of a VOR receiver is:

1. 108 to 135.95 MHz
2. 118 to 135.95 MHz
3. 108 to 117.95 MHz ✓
4. 108 to 111.95 MHz

Question 101 of 188

Number: 3313

Question: If the reference phase differs 30° with the variable phase the radial from the VOR station will be :

1. 330°
2. 210°
3. 150°
4. 030° ✓

Question 102 of 188

Number: 3314

Question: A Cat III ILS glidepath transmitter provides reliable guidance information down to:

1. the surface of the runway ✓
2. a maximum height of 50 ft above the runway
3. a maximum height of 100 ft above the runway
4. a maximum height of 200 ft above the runway

Question 103 of 188

Number: 3315

Question: Which of the following is an ILS localiser frequency?

1. 110.20 MHz

2. 109.15 MHz
3. 112.10 MHz
4. 108.25 MHz

Question 104 of 188

Number: 4731

Question: What airborne equipment, if any, is required to be fitted in order that a VDF let-down may be flown?

1. none
2. VOR/DME
3. VHF radio
4. VOR

Question 105 of 188

Number: 4732

Question: Which of the following is an advantage of Ground/DF (VDF) let-down?

1. It does not require any special equipment, apart from a VHF radio, to be installed in the aircraft or on the ground
2. It is pilot interpreted and does not require the assistance of ATC
3. It does not require any special equipment to be fitted to the aircraft
4. It only requires a VHF radio to be fitted to the aircraft

Question 106 of 188

Number: 4733

Question: In which one of the following circumstances is ground direction finding (VDF) likely to be used to fix an aircraft's position?

1. On first contact with ATC on crossing an international FIR boundary
2. When contacting ATC to join controlled airspace from the open FIR
3. When using the emergency VHF frequency 121.5 MHz
4. When declaring an emergency on any frequency

Question 107 of 188

Number: 4734

Question: In which frequency band does the Microwave Landing System (MLS) operate?

1. EHF
2. UHF
3. SHF
4. VHF

Question 108 of 188

Number: 5730

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

1. Measurement of the frequency shift between the MLS azimuth and elevation transmissions
2. Timing the interval between the reception of sequential secondary radar pulses from the MLS station to the aircraft

3. Timing the interval between the transmission and reception of primary radar pulses from the aircraft to MLS station
4. A precision facility DME ✓

Question 109 of 188

Number: 5731

Question: Which one of the following correctly lists the major ground based components of a Microwave Landing System (MLS)?

1. Separate azimuth and elevation transmitters, DME facility ✓
2. Combined azimuth and elevation transmitter, DME facility
3. Combined azimuth and elevation transmitter, outer and inner marker beacons
4. Separate azimuth and elevation transmitters, outer and middle marker beacons

Question 110 of 188

Number: 5783

Question: The captain of an aircraft flying at FL100 wishes to obtain weather information at the destination airfield from the airfield's VOR. Assuming ISA conditions, what is the approximate maximum theoretical range at which it can be expected to obtain this information?

1. 123 NM ✓
2. 123 km
3. 12.3 NM
4. 1230 km

Question 111 of 188

Number: 5784

Question: The BFO selector on an ADF receiver is used to:

1. find the loop 'null' position
2. stop loop rotation
3. hear the IDENT of some NDB stations radiating a continuous wave signal ✓
4. hear the IDENT and must always be switched ON

Question 112 of 188

Number: 5785

Question: An NDB transmits a signal pattern in the horizontal plane which is:

1. omnidirectional ✓
2. bi-lobal circular
3. a beam rotating at 30 Hz
4. a cardioid balanced at 30 Hz

Question 113 of 188

Number: 5787

Question: A VOR and DME are co-located. You want to identify the DME by listening to the callsign. Having heard the same callsign 4 times in 30 seconds the:

1. DME callsign is the one with the higher pitch that was broadcast only once
2. VOR and DME callsigns were the same and broadcast with the same pitch
3. DME callsign is the one with the lower pitch that was broadcast several times
4. DME callsign was not transmitted, the distance information is sufficient proof of correct operation

Question 114 of 188

Number: 5788

Question: The heading rose of an HSI is frozen on 200°. Lined up on the ILS of runway 25, the localizer needle will be:

1. left of centre
2. centred
3. centred with the 'fail' flag showing
4. right of centre

Question 115 of 188

Number: 5794

Question: Given: Aircraft heading 160°(M), Aircraft is on radial 240° from a VOR, Selected course on HSI is 250°. The HSI indications are deviation bar:

1. ahead of the aeroplane symbol with the TO flag showing
2. behind the aeroplane symbol with the FROM flag showing
3. behind the aeroplane symbol with the TO flag showing
4. ahead of the aeroplane symbol with the FROM flag showing

Question 116 of 188

Number: 5550

Question: Given: VOR station position N61° E025°, variation 13°E; Estimated position of an aircraft N59° E025°, variation 20°E. What VOR radial is the aircraft on?

1. 160°
2. 347°
3. 193°
4. 167°

Question 117 of 188

Number: 11019

Question: A cumulonimbus cloud in the vicinity of an aeroplane can cause certain navigation systems to give false indications. This is particularly true of the:

1. ADF
2. DME
3. VOR
4. weather radar

Question 118 of 188

Number: 11020

Question: A VOR and a NDB are co-located. You cross the VOR radial of 240° on a heading of 360°(M). In the vicinity of the station you should read an ADF bearing of:

1. 300

2. 060
3. 120
4. 240

Question 119 of 188

Number: 11021

Question: An ADF provides the aircraft with bearing information with respect to a ground station. To do this, the ground station emits a signal pattern which is:

1. frequency modulated at 30 Hertz
2. unidirectional
3. omnidirectional
4. a beam rotating at 30 Hertz

Question 120 of 188

Number: 11022

Question: An aircraft at FL300, with a groundspeed of 300 kt, is about pass overhead a DME station at MSL. The DME receiver is capable of determining ground-speed. One minute before the overhead, DME speed and distance indications are respectively:

1. less than 300 kt and 7 NM.
2. 300 kt and 7 NM.
3. 300 kt and 5 NM.
4. less than 300 kt and 5 NM.

Question 121 of 188

Number: 11023

Question: A pilot flying an aircraft at FL 80, tunes in a VOR which has an elevation of 313 m. Given ISA conditions, what is the maximum theoretical distance at which a pilot might expect to receive the VOR signals?

1. 180 NM
2. 151 NM
3. 120 NM
4. 100 NM

Question 122 of 188

Number: 11024

Question: An aircraft is on the 120° radial from a VOR station. Course 340° is selected on the HSI (Horizontal Situation Indicator). If the magnetic heading is 070°, the deviation bar relative to the aeroplane model, will be:

1. behind.
2. left.
3. in front.
4. right.

Question 123 of 188

Number: 11025

Question: An aircraft is situated at 30°N - 005°E with a magnetic variation of 10°W. A VOR is located at 30°N - 013°E with a magnetic variation of 15°W. The aircraft is situated on the VOR radial:

1. 256°
2. 286° ✓
3. 281°
4. 101°

Question 124 of 188

Number: 11026

Question: An aircraft passes overhead a DME station at 12000 feet above the station. At that time, the DME reading will be:

1. fluctuating and not significant.
2. approximately 2 NM. ✓
3. FLAG/OFF, the aircraft is within the cone of silence.
4. 0 NM.

Question 125 of 188

Number: 11028

Question: DME channels operate in the frequency band which includes:

1. 1 000 MHz ✓
2. 600 MHz
3. 300 MHz
4. 110 MHz

Question 126 of 188

Number: 11029

Question: Given: W/V (T) 230/ 20 kt, Var. 6E, TAS 80 kt What relative bearing from an NDB should be maintained in order to achieve an outbound course of 257°(M) from overhead the beacon?

1. 172°
2. 352°
3. 008°
4. 188° ✓

Question 127 of 188

Number: 11031

Question: On the QDR of 075° (in the vicinity of the station) with a magnetic heading of 295°, the relative bearing on the ADF indicator is:

1. 140°
2. 040°
3. 220°
4. 320° ✓

Question 128 of 188

Number: 11032

Question: The BFO selector switch on the ADF control panel must be in the 'on' position to enable the pilot to:

1. hear the IDENT of NDBs using NON A1A transmissions
2. hear the IDENT of NDBs using NON A2A transmissions
3. stop the loop rotation
4. adjust the loop to the aural null position

Question 129 of 188

Number: 11033

Question: The OBS is set on 048°, TO appears in the window. The needle is close to full right deflection. The VOR radial is approximately:

1. 038°
2. 218°
3. 238°
4. 058°

Question 130 of 188

Number: 11034

Question: The OBS is set to 235°. The indications of the VOR are half scale deflection left and 'to'. The aircraft is on the radial:

1. 060°
2. 230°
3. 240°
4. 050°

Question 131 of 188

Number: 11035

Question: The operating principle of a DME is the measurement of the:

1. frequency change between the emitted wave and reflected wave
2. phase difference between emitted wave and reflected wave
3. time between the transmission and reception of radio pulses
4. frequency of the reflected wave

Question 132 of 188

Number: 11036

Question: When flying at 6000 feet above ground level, the DME indicates 5 NM. What is the horizontal distance from the aircraft to overhead the DME?

1. 4.3 NM
2. 4.6 NM
3. 5.2 NM
4. 4.9 NM

Question 133 of 188

Number: 11038

Question: You are on a magnetic heading of 055° and your ADF indicates a relative bearing of 325°. The QDM is:

1. 235°
2. 200°

3. 055°
4. 020°

Question 134 of 188

Number: 11039

Question: Your aircraft is heading 075°M. The OBI is set to 025°. The VOR indications are 'TO' with the needle showing right deflection. Relative to the station, you are situated in a quadrant defined by the radials:

1. 205° and 295°
2. 115° and 205°
3. 025° and 115°
4. 295° and 025°

Question 135 of 188

Number: 14182

Question: A VOR and an NDB are co-located. An aircraft equipped with an RMI is flying away from the beacons on a radial of 090º through an area where magnetic variation is changing rapidly. Which statement is correct?

1. The VOR needle moves, the ADF needle does not
2. Both VOR and ADF needles move
3. The ADF needle moves, the VOR needle does not
4. Neither the VOR or the NDB needles move

Question 136 of 188

Number: 14185

Question: Which of these markers has the highest audible frequency?

1. Inner
2. Outer
3. Airways
4. Middle

Question 137 of 188

Number: 14190

Question: A MLS without DME-P provides:

1. A category 3 approach
2. A staged approach but not with a curved path
3. An ILS-like approach
4. An approach with a curved path but not staged

Question 138 of 188

Number: 14192

Question: False beams on the ILS glidepath are:

1. only found if more than 10º left or right of localiser centreline
2. only found if flying the backbeam ILS approach
3. only found below the correct glideslope

4. only found above the correct glideslope ✓

Question 139 of 188

Number: 14194

Question: Which statement is true regarding a compass when directly overhead the north magnetic pole?

1. the magnetic variation is 90º
2. the compass tail points down
3. the horizontal component of the earths magnetic field is horizontal
4. the compass tip will point directly down ✓

Question 140 of 188

Number: 14197

Question: On an ILS approach, the localiser needle is fully over to the left. How much deflection does this indicate?

1. 0.7º
2. 2.5º ✓
3. 10º
4. 5º

Question 141 of 188

Number: 14198

Question: On an ILS approach, the glidepath needle is fully down. How much deflection does this indicate?

1. 2.5º
2. 5º
3. 0.7º ✓
4. 10º

Question 142 of 188

Number: 14199

Question: An aircraft is flying directly overhead a DME station at FL410. The indicated range will be approximately:

1. 8.1km
2. 6.8 km
3. 8.1nm
4. 6.8 nm ✓

Question 143 of 188

Number: 14202

Question: The audio modulation of the middle marker is keyed to give

1. a sequence of 3 dashes, 3 dots and 3 dashes every second.
2. alternating dots and dashes at a rate of 2 dashes per second and 6 dots per second ✓
3. continuous dots at a rate of 6 per second
4. continuous dashes at a rate of 2 per second

Question 144 of 188

Number: 14205

Question: What does ADF stand for?

1. Aeroplane Direction Finding
2. Airport Direction Finder
3. Automatic Direction Finder
4. Airborne Direction Finding

Question 145 of 188

Number: 14206

Question: If you are flying a back course ILS, you are flying a:

1. precision approach on the precision approach runway
2. non precision approach on the reciprocal runway of the precision approach runway
3. non precision approach on the precision approach end of the runway
4. precision approach on the reciprocal runway of the precision approach runway

Question 146 of 188

Number: 14479

Question: According to the ILS coverage area as defined by ICAO Annex 10, in which of the following situations will the pilot be guaranteed a reliable signal from the localiser?

1. 10NM from touchdown inbound and 38° displaced from the localiser centreline.
2. 19NM from touchdown inbound and 13° displaced from the localiser centreline.
3. 27NM from touchdown inbound and 8° displaced from the localiser centreline.
4. 20NM from touchdown inbound and 8° displaced from the localiser centreline.

Question 147 of 188

Number: 14223

Question: The middle marker transmits on:

1. 75MHz
2. 1300MHz
3. 1300Hz
4. 75Hz

Question 148 of 188

Number: 14224

Question: A locator: 1 - is a low powered beacon 2 - is a high powered beacon 3 - has a range of 10 – 25NM 4 - has a range of 10 -200NM

1. 2 and 3
2. 2 and 4
3. 1 and 4
4. 1 and 3

Question 149 of 188

Number: 6003

Question: Reflection from ionospheric layers is used in the following radio frequencies:

1. VLF

2. VHF
3. UHF
4. HF ✓

Question 150 of 188

Number: 6004

Question: Mountain effect, occuring for instance with NDBs, is caused by what physical phenomenon?

1. reflection ✓
2. refraction
3. diffraction
4. absorption

Question 151 of 188

Number: 6005

Question: The super position of two EM-waves of the same or nearly the same frequency is called?

1. reflection
2. diffraction
3. interference ✓
4. refraction

Question 152 of 188

Number: 6006

Question: The process by which EM-energy is taken up by the atmosphere is called?

1. refraction
2. absorption ✓
3. diffraction
4. interference

Question 153 of 188

Number: 6007

Question: The phenomenon of a change in direction of an EM-wave occuring at an interfacce between two different media, so that the wave returns into the medium from which it originated, is called?

1. reflection ✓
2. refraction
3. interference
4. diffraction

Question 154 of 188

Number: 6008

Question: The phenomenon of a change in direction of an EM-wave occuring due to a change in its speed is called?

1. reflection
2. refraction ✓

3. diffraction
4. interference

Question 155 of 188

Number: 6009

Question: In aviation electronic systems the so-called Doppler principle may be used in:

1. VOR, DME and GPS.
2. VOR, DME and ILS.
3. VOR, GPS and MTS and the turbulence mode of AWR. ✓
4. VOR, MTI and the mapping mode of AWR.

Question 156 of 188

Number: 6010

Question: What is the Doppler effect with reference to radio signals?

1. It is the shift in frequency of a radio wave due to the relative movement between transmitter and receiver. ✓
2. It is the increases or decreases in the ground speed of the transmitting aircraft.
3. It is interference between the direct and earth reflected wave.
4. It is fluctuations in their propagation speed.

Question 157 of 188

Number: 6011

Question: Which statement about VHF/UHF propagation in connection with Ground Direction Finders is correct?

1. For both VHF/UHF propagation, the space wave is the only propagation path of practical use. There is no sky wave under normal conditions. ✓
2. VHF has, under normal conditions, a sky wave, whereas UHF has not. For both VHF/UHF propagation the space wave is the main propagation path.
3. VHF-frequencies below 120 MHz may be subjected to sporadic E-reflection and then have a sky wave. For both VHF/UHF the surface wave is the only propagation path of practical use.
4. Neither VHF/UHF has a sky wave under any conditions. For VHF the surface wave is the main propagation path adn for UHF the space wave.

Question 158 of 188

Number: 6012

Question: Which of the following summaries lists only directional antennae?

1. Dipole antenna, sense antenna, parabolic antenna, helical antenna.
2. Dipole antenna, loop antenna, parabolic antenna, slotted planar array antenna.
3. Sense antenna, parabolic antenna, slotted planar array antenna, helical antenna.
4. Loop antenna, parabolic antenna, slotted planar antenna, helical antenna. ✓

Question 159 of 188

Number: 6013

Question: Given a wire fed with alternating current and a second wire parallel to, but remote from it. The results will be:

1. the first wire will radiate electromagnetic waves into space and the second wire will double the transmission power of the first one.
2. the first wire will radiate electromagnetic waves into space and direct current will be induced in the second wire.

3. the first wire will radiate electromagnetic waves into space and alternating current will be induced in the second wire.
4. the first wire will radiate electromagnetic waves into space but the transmitted energy will be completely absorbed by the second wire.

Question 160 of 188

Number: 6014

Question: Phase modulation:

1. is a modulation form used in GPS where the phase of the carrier wave is reversed.
2. results in a change of amplitude of the carrier wave.
3. is a modulation form used in ILS where the phase of the navigation signal is changed with 90° or 150°.
4. results in a change of polarisation of the modulated signal.

Question 161 of 188

Number: 6015

Question: What is meant by keying A1A modulation?

1. adding information on the carrier wave by use of modulating signal.
2. interrupting the carrier wave to break it into dots and dashes.
3. interrupting the modulating signal to break it into dots and dashes.
4. changing the amplitude of the carrier wave to add information.

Question 162 of 188

Number: 6016

Question: The phenomenon when a wave bends when it passes around an impenetrable obstacle is:

1. diffraction
2. refraction
3. interference
4. reflection

Question 163 of 188

Number: 6017

Question: From which physical phenomenon do skywaves originate?

1. refraction
2. interference
3. absorption
4. diffraction

Question 164 of 188

Number: 6018

Question: Single Side Band (SSB) is used:

1. in VHF transmissions to reduce transmission power.
2. with NDB transmissions to reduce bandwidth.
3. In HF two-way communication.

4. with transmissions of the Meteorological Aerodrome Report (METAR)

Question 165 of 188

Number: 6019

Question: Radio waves in the VHF and higher frequency bands propagate mainly as:

1. space waves. ✓
2. earth reflected waves.
3. surface waves.
4. sky waves.

Question 166 of 188

Number: 6020

Question: A reason that GPS satellites use helical antennae is:

1. to improve the signal to noise ratio.
2. that the signal has a circular polarization. ✓
3. to achieve better omni directional receiving qualities.
4. to neutralize the ionospheric delay.

Question 167 of 188

Number: 6025

Question: Modulation is:

1. Elimination of disturbances for improving reception.
2. Addition of a high frequency signal (tone, voice) onto low frequency carrier wave.
3. Addition of a low frequency signal (tone, voice) onto high frequency carrier wave. ✓
4. Tuning receiver into the frequency of the transmitter.

Question 168 of 188

Number: 6036

Question: Radio waves travel at:

1. the speed of light. ✓
2. a speed just below the speed of sound.
3. the speed of sound.
4. a speed depending on the type of electroamgetic waves.

Question 169 of 188

Number: 6037

Question: Which of the following is true with reference to frequency of a radio wave?

1. frequency is the minimum number of cycles occuring in one minute in a radio wave expressed in Hertz (Hz).
2. frequency os the maximum deflection in a radio wave expressed in Hertz (Hz).
3. frequency is the length of a radio wave expressed as an angle.
4. frequency is the number of cycles in one second in a radio wave expressed in Hertz (Hz). ✓

Question 170 of 188

Number: 6038

Question: The frequency which corresponds to a wavelength of 8.25 m is:

1. 3636 MHz

2. 363.6 MHz
3. 36.36 MHz 
4. 3.63 MHz

Question 171 of 188

Number: 6039

Question: The frequency which corresponds to a wavelength of 3 km is:

1. 1 MHz
2. 1000 KHz
3. 10 KHz
4. 100 KHz 

Question 172 of 188

Number: 6040

Question: Which of the following terms describes the maximum deflection in an oscillation?

1. period
2. amplitude 
3. frequency
4. phase

Question 173 of 188

Number: 6041

Question: Single-sideband modulation (SSB) is a modulation technique where only one sideband is transmitted, SSB is used for:

1. VHF VOR and GNSS
2. HF Volmet and HF two-way communication. 
3. HF one-way communication
4. VHF communication and HF Volmet

Question 174 of 188

Number: 6043

Question: The polarisation of an electromagnetic wave describes:

1. the orientation of the plane of oscillation of the magnetic component of the wave with regard to its direction of propagation.
2. the direction of propagation.
3. the orientation of the plane of oscillation of the electrical component of the wave with regard to its direction of propagation. 
4. the loss of power of the electrical component of the electromagnetic wave.

Question 175 of 188

Number: 6044

Question: The simplest type of antenna construction is a:

1. loop antenna used in ADF receivers.
2. parabolic antenna used in weather radars.
3. slotted antenna used in modern weather radars.

4. dipole antenna which is a wire of length equal to one half of the wavelength.

Question 176 of 188

Number: 6045

Question: A loop antenna is commonly used in:

1. airborne weather radars.
2. ADF receivers.
3. satellite transmitters.
4. GPS transmitters.

Question 177 of 188

Number: 6046

Question: Concerning the wave propagation in the ionosphere, we denote three layers. Those three layers are:

1. D, E and F layers and their depth varies with time.
2. A, B and C layers and their depth varies with time.
3. D, E and F layers and their depth does not vary with time.
4. A, C and E layers with equal depth.

Question 178 of 188

Number: 6047

Question: Which statement about VHF/UHF Frequencies is correct?

1. for both VHF/UHF propagation, the space wave is the only propagation path of practial use. There is no sky wave under normal conditions.
2. VHF frequencies below 120 MHz may be subjected to sporadic E-reflections and then have sky wave. For both VHF/UHF the sky wave is the main propagation path of practial use
3. VHF has, under normal conditions, a sky wave whereas UHF has not. For both VHF/UHF propagation the space wave is the main propagation path.
4. neither VHF/UHF has a sky wave under any conditions. For VHF the surface wave is the main propagation path and for UHF the space wave.

Question 179 of 188

Number: 6049

Question: An amplitude modulation is shown in figure:

1. d
2. b
3. c
4. a

Question 180 of 188

Number: 6112

Question: Modulation is:

1. the transformation of the radio wave into a digital signal
2. the amplification of the received radio wave in the detector.

3. the addition of information onto a radio wave during transmission.
4. the separation of information from the radio wave during receiving.

Question 181 of 188

Number: 7225

Question: VHF (Very High Frequency) waves appear in the frequency spectrum:

1. 3 MHz - 30 MHz
2. 30 MHz - 300 MHz
3. 300 MHz - 3000 MHz
4. 3 GHz - 30 GHz

Question 182 of 188

Number: 7226

Question: In accordance with the ITU (International Telecommunication Union) a radio signal may be classified by three symbols. Second symbol indicates (e.g. A1A):

1. Type of modulation of the secondary carrier.
2. Type of information to be transmitted.
3. Type of modulation of the main carrier.
4. Nature of signal(s) modulating the main carrier.

Question 183 of 188

Number: 7227

Question: EHF (Extremely High Frequency) waves appear in the frequency spectrum:

1. 30 GHz - 300 GHz
2. 3 GHz - 30 GHz
3. 30 MHz - 300 MHz
4. 3 MHz - 30 MHz

Question 184 of 188

Number: 7228

Question: SHF (Super High Frequency) waves appear in the frequency spectrum:

1. 30 MHz - 300 MHz
2. 3 MHz - 30 MHz
3. 300 MHz - 3000 MHz
4. 3 GHz - 30 GHz

Question 185 of 188

Number: 7229

Question: VLF (Very Low Frequency) waves appear in the frequency spectrum:

1. 30 MHz - 300 MHz
2. 3 GHz - 30 GHz
3. 3 kHz - 30 KHz
4. 300 MHz - 3000 MHz

Question 186 of 188

Number: 7230

Question: In accordance with the ITU (International Telecommunication Union) a radio signal may be classified by three symbols. Third symbol indicates (e.g. A1A):

1. Nature of signal(s) modulating the main carrier.
2. Type of modulation of the secondary carrier.
3. Type of modulation of the main carrier.
4. Type of information to be transmitted. ✓

Question 187 of 188

Number: 7231

Question: MF (Medium Frequency) waves appear in the frequency spectrum:

1. 30 GHz - 300 GHz
2. 3 MHz - 30 MHz
3. 30 MHz - 300 MHz
4. 300 kHz - 3000 kHz ✓

Question 187 of 188

Number: 7231

Question: MF (Medium Frequency) waves appear in the frequency spectrum:

1. 30 GHz - 300 GHz
2. 3 MHz - 30 MHz
3. 30 MHz - 300 MHz
4. 300 kHz - 3000 kHz ✓

02-RADIO AIDS

Question 1 of 263

Number: 2402

Question: The Low Altitude Radio Altimeter uses the following wavelengths:

1. centimetric. ✓
2. decimetric.
3. myriametric.
4. metric.

Question 2 of 263

Number: 2403

Question: The Automatic Direction Finder uses the following wavelengths:

1. centimetric.
2. hectometric or kilometric. ✓
3. metric.
4. decimetric.

Question 3 of 263

Number: 2392

Question: The minimum airborne equipment required for operation of a VHF direction finder is a:

1. VHF compass operating in the 200 kHz to 1750 kHz range.
2. cathode-ray tube.
3. VHF receiver operating in the 118 MHz to 136 MHz range.
4. VHF transmitter-receiver operating in the 118 MHz to 136 MHz range. ✓

Question 4 of 263

Number: 2395

Question: The VHF Omnirange (VOR) uses the following wavelengths:

1. hectometric.
2. decimetric.
3. centimetric.
4. metric. ✓

Question 5 of 263

Number: 2397

Question: The Distance Measuring Equipment (DME) uses the following wavelengths:

1. hectometric.
2. centimetric.
3. metric.
4. decimetric. ✓

Question 6 of 263

Number: 2399

Question: The VHF direction finder uses the following wavelengths:

1. centimetric.
2. decimetric.
3. hectometric.
4. metric. ✓

Question 7 of 263

Number: 2401

Question: The high Altitude Radio Altimeter uses the following wavelengths:

1. hectometric.
2. decimetric. ✓
3. metric.
4. myriametric.

Question 8 of 263

Number: 10098

Question: The wavelength of a radio signal transmitted at the frequency of 75 MHz is:

1. 40m
2. 75m
3. 7.5m

4. 4m

Question 9 of 263

Number: 5397

Question: In the propagation of MF waves, the phenomenon of FADING is particularly found:

1. by day and when raining.
2. at night, due to the combination of the sky and ground waves.
3. by day, due to the combination of sky and ground waves.
4. at night and when raining.

Question 10 of 263

Number: 16846

Question: Regarding ILS which of the following is true?

1. The localiser part of frequency band is shared with the DME.
2. The DME paired with ILS channels are usually zero referenced next to the departure end of the runway.
3. The glide path transmitter is located 300m from the departure end of the runway.
4. All markers transmit at 75 MHz.

Question 11 of 263

Number: 16868

Question: The three different markers can be used in the ILS to determine the distance to the ILS touchdown point of the runway as follows:

1. The middle marker indicates the position for the decision for a missed approach during a CAT I approach due too bad visibility.
2. The inner marker warns the pilot of the last chance to commence the missed approach procedure.
3. The markers are only important in the situation when the Glide Path transmission has ceased.
4. The outer marker indicates the position where normally the descent has to commence.

Question 12 of 263

Number: 16876

Question: The principle of operation of an ILS is:

1. modulation of the ILS frequency by the amplitude of two modulating signal.
2. the difference in depth of modulation.
3. the difference between the frequencies of the two tones.
4. the phase comparison.

Question 13 of 263

Number: 16698

Question: In an ILS system,concerning the glidepath principle of operation, the difference in depth of modulation (DDM): 1. decrease with angular displacement below the glidepath. 2. increase with angular displacement above the glidepath. 3. decrease with angular displacement above the glidepath. 4. increase with angular displacement below the glidepath. The combination regrouping all the correct statements is:

1. 1 and 3.
2. 2 and 3.
3. 1 and 4.

4. 2 and 4.

Question 14 of 263

Number: 16715

Question: The UHF band is assigned to the: 1. Locator 2. Localiser 3. Outer marker 4. Glide path The combination that regroups all the corrects statements is :

1. 1 and 3.
2. 3 and 4.
3. 1.
4. 4.

Question 15 of 263

Number: 16744

Question: TVOR is a

1. low power DVOR in the frequency range 112 MHz - 118 MHz.
2. test VOR transmitting such a signal that the reference- and variable signal are always in phase.
3. VOR with a limited range used in the terminal area.
4. high power VOR in the frequency range 108 MHz - 112 MHz.

Question 16 of 263

Number: 16755

Question: An aircraft is flying a heading of 245° towards a VOR at FL300. The HSI displays a "selected course" of 255º with a TO-indication. The variation at the VOR is 15ºE. Variation at the aircraft position is 16°E and the deviation is +1°. When the pilot keeps the CDI on the left inner dot on a display with two dots on either side:

1. the VOR will be approached along radial 080.
2. the aircraft will pass south of the VOR.s
3. the VOR will be approached along radial 070.
4. the aircraft will pass north of the VOR.

Question 17 of 263

Number: 16839

Question: On final on ILS approach, at 0,6 NM from the threshold, which marker are you likely to hear?

1. The outer marker.
2. The middle marker.
3. The inner marker (if available).
4. No markers can be located at this distance.

Question 18 of 263

Number: 16840

Question: Which statement about the interrogation by the DME-interrogator is correct?

1. The interrogation starts directly after the correct DME-frequency has been selected on the frequency-selecting-panel by the pilot.
2. The interrogation starts when the interrogator has been warmed up sufficiently, whether pulse-pairs are received or not.

3. The interrogation does not start before pulse-pairs of the tuned DME-station are received. ✓
4. The interrogation can only take place if the Echo Protection Circuit has been locked.

Question 19 of 263

Number: 16827

Question: The effect of masking the DME antenna of the aircraft from the ground installation is that Interruption of reception of DME signals results in:

1. The signal controlled search circuit (SCS) blanking the DME display.
2. The airborne equipment switching directly to the search mode.
3. The Airborne installation switching to the memory mode for about 10 to 15 seconds. ✓
4. The ground installation not sending any pulse pairs..

Question 20 of 263

Number: 16797

Question: What causes the so-called night effect?

1. Interference between the ground and the space wave.
2. The difference in velocity of the EM-waves over land and over sea, at night.
3. A change in the direction of the plane of polarisation due to reflection in the ionosphere. ✓
4. The absence of the surface wave at distances larger than the skip distance.

Question 21 of 263

Number: 16822

Question: MLS can minimise multi path errors because

1. the transmission reverts to circular polarization when the beam is reflected by stationary objects.
2. MLS has a larger beam width than ILS.
3. the frequency of MLS is much higher than the frequency of ILS.
4. the transmission can be interrupted to avoid reflection by stationary objects. ✓

Question 22 of 263

Number: 16813

Question: What is the function of the Echo Protection Circuit (EPC)?

1. The EPC has to detect if pulse-pairs reflected by the ionosphere are interfering with directly received pulse-pairs.
2. The EPC has to detect if the interrogator-receiver has been locked on, by reflected pulse-pairs. ✓
3. The EPC has to protect the transponder-receiver against reflected pulse-pairs.
4. The EPC has to detect if unwanted squitter-pulses are interfering with the well-functioning of the interrogator-receiver.

Question 23 of 263

Number: 16802

Question: The selection of the DME frequency for a ILS/DME installation is as follows:

1. When an ILS/ DME is flown then selection of the DME has always to be done manually.
2. The pilot has to insert the channel number and also the X or Y.

3. The DME frequency is paired with the localizer frequency so only the localiser frequency is set.

4. The DME frequency has to be selected by the pilot.

Question 24 of 263

Number: 16803

Question: Which statement is true about the use of the Doppler effect in a Doppler VOR?

1. The Doppler effect is used to create a signal which is received by the aircraft's VOR-receiver as a frequency modulated signal.

2. By using the Doppler effect it is also possible to determine the aircraft's approach speed to the VOR.
3. The Doppler effect is used to create a signal which is received by the aircraft's VOR-receiver as an amplitude modulated signal.
4. By using the Doppler effect it is possible to determine the range of the aircraft from the VOR station more accurately.

Question 25 of 263

Number: 16289

Question: Performing an ILS approach, you will fly overhead the markers in an specific order. This order is:

1. OM, IM (if available), MM.
2. OM, MM, IM (if available).

3. MM, IM (if available), OM.
4. IM (if available), MM, OM.

Question 26 of 263

Number: 16286

Question: The UHF band is the assigned frequency band of the:

1. outer marker beacon.
2. ILS glide path transmitter.

3. all the 3 ILS marker beacons.
4. ILS localiser transmitter.

Question 27 of 263

Number: 16309

Question: The MLS frequencies and available channels are

1. in the VHF- and UHF band, 40 available channels.
2. in the range 5060 - 5090 MHz, 200 kHz separation giving 150 available channels.
3. in the SHF band for the MLS elements and the VHF band for the DME, 100 available channels.
4. in the SHF band, 300 kHz frequency separation giving 200 available channels.

Question 28 of 263

Number: 16304

Question: A VDF may be used

1. in combination with radar to solve the 180º ambiguity.

2. to provide the ATC controller with bearings of aircraft in the absence of radar.
3. in emergency type situations when the aircraft is unable to transmit on VHF.
4. in lieu of ILS for precision approach purposes.

Question 29 of 263

Number: 16295

Question: The ident of a DME in case of collocation with a VOR is as follows:

1. In 40 seconds the DME ident will sound once.
2. In 30 seconds the DME ident comes up 3 times at an audio frequency of 1350 Hz.
3. The DME ident comes up every 10 seconds at an audio frequency of 1020 Hz.
4. In case of collocation the DME ident is not necessary if the VOR ident is present.

Question 30 of 263

Number: 16333

Question: If the (angular) displacement of an aircraft (with respect to the localiser centerline) doubles (e.g. from 1° tot 2°) the measured Difference in Depth of Modulation

1. remains unchanged.
2. increases fourfold.
3. is halved.
4. doubles.

Question 31 of 263

Number: 16334

Question: Concerning the localiser principle of operation in an ILS system, the difference in depth of modulation (DDM):

1. decreases with respect to the angular displacement from the centerline.
2. increases linearly with respect to the distance from the centre line.
3. decreases proportionally to the angular displacement from the centerline.
4. increases linearly with respect to the angular displacement from the centerline.

Question 32 of 263

Number: 16349

Question: The ILS marker identified visually by an blue flashing light is the:

1. middle marker.
2. inner marker.
3. locator.
4. outer marker.

Question 33 of 263

Number: 16350

Question: The ILS marker identified audibly by a series of two dashes per second is the:

1. locator.
2. inner marker.
3. middle marker.

4. outer marker.

Question 34 of 263

Number: 16351

Question: The ILS marker with an aural frequency of 400 Hz is:

1. locator.
2. middle marker.
3. inner marker.
4. outer marker.

Question 35 of 263

Number: 16363

Question: The quadrantal error of an ADF

1. is caused by aircraft magnetism and varies with the deviation as shown on the deviation table.
2. is caused by interference from the sky wave.
3. may be caused by the interference of VOR's within range of the ADF receiver and cannot be compensated for.
4. is caused by the refraction from the aircraft's fuselage and is compensated for.

Question 36 of 263

Number: 16648

Question: One of the possible disturbances of the ILS signal is "scalloping". Which statement is correct?

1. Scalloping are major changes or bends in the approach path which can not be followed by the aircraft.
2. Scalloping are rapid changes or bends which can be followed by the aircraft.
3. Scalloping causes rapid indicator changes from side to side of the intended approach path which can not be followed by the aircraft.
4. Scalloping are minor changes or bends which can be followed by the aircraft.

Question 37 of 263

Number: 16649

Question: Which of the following statements about the scalloping (path deflection) of VOR-radials, in relation to the accuracy of navigation using a VOR/DME RNAV-system, is correct?

1. Scalloping has a negative effect on the accuracy of navigation.
2. Scalloping has no effect on the accuracy of navigation because it only results in the movement of the needle of the Course Deviation Indicator.
3. Scalloping has no effect on the accuracy of navigation because this accuracy is independent of VOR- or DME-measurements.
4. Scalloping has a positive effect on the accuracy of navigation.

Question 38 of 263

Number: 16614

Question: What is the effect of multipath signals (coming from the same aircraft) at the Ground VHF Direction Finder station?

1. They may result in bearing errors. 
2. It may result in an increase of the distance at which the Ground VHF Direction Finder station receives signals from the aircraft, if the Ground Station is situated in the skipzone.
3. Regardless the difference in distance travelled by these signals, it results in their extinction of the signals at the Ground VHF Direction Finder station.
4. It reduces the range at which the Ground VHF Direction Finder station receives signals from the aircraft.

Question 39 of 263

Number: 16626

Question: By selecting one VHF frequency, in the range of 108 to 112 MHz, on the NAV receiver

1. rho-theta information from a terminal VOR/DME can be obtained. 
2. theta-theta information from enroute VOR's can be obtained.
3. rho-theta information from an enroute VOR/DME station can be obtained.
4. rho-rho information from an ILS/DME can be obtained.

Question 40 of 263

Number: 16688

Question: In flight, a pilot can improve the range of his transmission with a VDF operator by:

1. decreasing altitude.
2. flying out of clouds.
3. increasing altitude. 
4. speaking louder.

Question 41 of 263

Number: 16600

Question: On an RMI the front end of a VOR pointer indicates the

1. magnetic bearing from the station.
2. magnetic bearing to the station.
3. radial plus 180º. 
4. radial.

Question 42 of 263

Number: 16595

Question: MLS not equipped with DME P

1. provides the capability for segmented approaches but of not curved approaches.
2. provides the capability for CAT 3 approaches.
3. provides the capability for curved approaches but not of segmented approaches.
4. provides basically the same approach capabilities as ILS. 

Question 43 of 263

Number: 16612

Question: VDF measures the bearing of the aircraft with:

1. reference to true or magnetic north at the aircraft.
2. reference only to magnetic north at the aircraft.
3. reference to aircraft relative bearing.

4. reference to true or magnetic north at the station.

Question 44 of 263

Number: 16603

Question: The three main components of VOR airborne equipment are

1. Receiver, Phase comparator, Range gate
2. Receiver, Antenna, Display
3. Display, Pulse generator, phase comparator
4. Demodulator, Antenna, CDU

Question 45 of 263

Number: 16551

Question: The ILS marker identified visually by an white light flashing is the:

1. middle marker
2. locator
3. outer marker
4. inner marker

Question 46 of 263

Number: 16552

Question: The ILS marker with the higher aural frequency is the:

1. middle marker.
2. inner marker.
3. locator.
4. outer marker.

Question 47 of 263

Number: 16553

Question: The ILS marker identified visually by an amber light flashing is the:

1. inner marker.
2. outer marker.
3. locator.
4. middle marker.

Question 48 of 263

Number: 16569

Question: In the VOR receiver the radial is determined by measurement of the

1. time difference between the reception of the variable signal and the reference signal.
2. phase of the variable signal.
3. phase difference between the variable signal and the reference signal.
4. doppler shift on the reference signal.

Question 49 of 263

Number: 16451

Question: Which answer states the typical distances along the centerline of the runway of the various ILS components?

1. Localizer transmitter:100 meter behind end of runway, Glide path transmitter: 100 meter behind threshold, Middle Marker: 1.5 NM from threshold, Outer Marker:10 NM from threshold
2. Localizer transmitter:100 meter behind end of runway, Glide path transmitter: 300 meter behind threshold, Middle Marker: 1000 meter from threshold, Outer Marker: 4 NM from threshold
3. Localizer transmitter: 300 meter behind end of runway, Glide path transmitter: 100 meter behind threshold, Middle Marker: 1.5 NM from threshold, Outer Marker:10 NM from threshold
4. Localizer transmitter: 300 meter behind end of runway, Glide path transmitter:300 meter behind threshold, Middle Marker:1000 meter from threshold, Outer Marker:4 NM from threshold ✓

Question 50 of 263

Number: 16452

Question: The ILS marker identified audibly by a series of alternate dots and dashes is the:

1. outer marker.
2. middle marker. ✓
3. inner marker.
4. locator.

Question 51 of 263

Number: 16453

Question: The ILS marker with an aural frequency of 1300 Hz is the:

1. locator.
2. outer marker.
3. inner marker.
4. middle marker. ✓

Question 52 of 263

Number: 16425

Question: An ILS marker beacon operates in the:

1. VHF band. ✓
2. UHF band.
3. HF band.
4. LF/MF band.

Question 53 of 263

Number: 16472

Question: The ADF indication in the cockpit is a

1. true bearing on an RMI
2. relative bearing on a fixed card indicator ✓
3. relative bearing on an RMI
4. magnetic bearing on a fixed card indicator

Question 54 of 263

Number: 16482

Question: Concerning ADF and NDB:

1. ADF is a civilian equipment whereas NDB is a military equipment used by civilians too.
2. NDB is a locator and ADF is an en route nav-aid.
3. ADF is an ground equipment and NDB can be a ground equipment or an airbone equipment.
4. NDB is a ground equipment, and ADF is an airbone equipment. ✓

Question 55 of 263

Number: 16500

Question: The ILS receiver of an aircraft on approach and flying on the glidepath will receive:

1. the same modulation frequency signals from both lobes with the maximum of magnitude.
2. the modulation from both lobes at equal depth. ✓
3. the maximum magnitude of the difference between the two amplitudes.
4. no modulated signal because the two lobes cancel each other along the centerline.

Question 56 of 263

Number: 16497

Question: The ILS receiver of an aircraft flying down the exact runway centreline will receive:

1. the maximum magnitude of the difference between the 90 Hz and 150 Hz amplitudes.
2. the same frequency modulated signal from both lobes with the maximum of magnitude.
3. no modulated signal because the left and the right lobes cancel each other along the centerline.
4. 90 Hz and 150 Hz lobes at equal depth. ✓

Question 57 of 263

Number: 16486

Question: Which statement about the errors and effects on NDB radio signals is correct?

1. Shore line effects may cause a huge bearing error due to reflection of the radio signal onto steep coasts.
2. Lightning during atmospheric disturbances may cause a reduction of the signal strength that may result in only slight bearing errors.
3. Night effect is a result of interference of the surface wave and the space wave causing a reduction in range.
4. The mountain effect is caused by reflections onto steep slopes of mountainous terrain which may cause big errors in the bearing. ✓

Question 58 of 263

Number: 16507

Question: NDB is the abbreviation for:

1. Non Directional Beacon. ✓
2. Night Directional Beacon.
3. Non Directional Bearing.
4. Navigation Director Beacon.

Question 59 of 263

Number: 16512

Question: The back CRS of an ILS may give:

1. precision approach guidance for the reciprocal of the main approach runway.

2. non-precision approach guidance for the reciprocal of the main approach runway.
3. precision approach guidance for the main approach runway.
4. non-precision approach guidance for the main approach runway.

Question 60 of 263

Number: 339

Question: When Mode C is selected on the aircraft SSR transponder the additional information transmitted is:

1. flight level based on 1013.25 hPa
2. height based on QFE
3. altitude based on regional QNH
4. aircraft height based on sub-scale setting

Question 61 of 263

Number: 340

Question: The ground Secondary Surveillance Radar (SSR) equipment incorporates a transmitter and receiver respectively operating in the following frequencies: Transmitter Receiver

1. 1090 MHz 1090 MHz
2. 1030 MHz 1030 MHz
3. 1030 MHz 1090 MHz
4. 1090 MHz 1030 MHz

Question 62 of 263

Number: 341

Question: Assuming sufficient transmission power, the maximum range of a ground radar with a pulse repetition frequency of 450 pulses per second is: (Given: velocity of light is 300 000 km/second)

1. 1333 km
2. 666 km
3. 150 km
4. 333 km

Question 63 of 263

Number: 252

Question: The amplitude modulation and the colour of an outer marker (OM) light is:

1. 400 Hz, amber
2. 3000 Hz, blue
3. 400 Hz, blue
4. 1300 Hz, blue

Question 64 of 263

Number: 258

Question: An aircraft DME receiver does not lock on to its own transmissions reflected from the ground because:

1. they are not on the receiver frequency
2. DME uses the UHF band
3. DME transmits twin pulses
4. the pulse recurrence rates are varied

Question 65 of 263

Number: 259

Question: The DME (Distance Measuring Equipment) operates within the following frequencies:

1. 108 to 118 MHz
2. 329 to 335 MHz
3. 962 to 1213 kHz.
4. 962 to 1213 MHz

Question 66 of 263

Number: 3227

Question: The main factor which determines the minimum range that can be measured by a pulsed radar is pulse:

1. frequency
2. length
3. amplitude
4. repetition rate

Question 67 of 263

Number: 3228

Question: Ignoring pulse length, the maximum pulse repetition frequency (PRF) that can be used by a primary radar facility to detect targets unambiguously to a range of 200 NM is: (pps = pulses per second)

1. 308 pps
2. 375 pps
3. 405 pps
4. 782 pps

Question 68 of 263

Number: 3076

Question: In which mode of operation does the aircraft weather radar use a cosecant radiation pattern.

1. MAPPING
2. MANUAL
3. CONTOUR
4. WEATHER

Question 69 of 263

Number: 2484

Question: A Primary radar operates on the principle of:

1. continuous wave transmission

2. pulse technique
3. transponder interrogation
4. phase comparison

Question 70 of 263

Number: 2494

Question: In accordance with Doc 8168, a pilot flying an NDB approach must achieve a tracking accuracy within..... of the published approach track.

1. +/-10°
2. +/-2°
3. +/-5°
4. +/-2.5°

Question 71 of 263

Number: 2762

Question: The two main design functions of Secondary Surveillance Radar (SSR) Mode S are:

1. the elimination of ground to air communications and the introduction of automatic separation between aircraft using TCAS II
2. continuous automatic position reporting using Global Positioning System (GPS) satellites and collision avoidance using TCAS II
3. air to ground and ground to air data link communications and improved ATC aircraft surveillance capability
4. collision avoidance using TCAS II and improved long range (HF) communication capability.

Question 72 of 263

Number: 2764

Question: A frequency of 10 GHz is considered to be the optimum for use in an airborne weather radar system because:

1. the larger water droplets will give good echoes
2. greater detail can be obtained at the more distant ranges of the smaller water droplets
3. enables the aircraft to detect clear air turbulence
4. static interference is minimised

Question 73 of 263

Number: 2766

Question: In an Airborne Weather Radar the areas of greatest turbulence are usually indicated on the screen by:

1. areas which are coloured black
2. colour zones of red and magenta
3. colour zones of green and yellow
4. blank areas where there is no colour

Question 74 of 263

Number: 2768

Question: Which of the following is a complete list of airborne weather radar antenna stabilisation axes?

1. pitch and yaw

2. roll and pitch
3. roll and yaw
4. roll, pitch and yaw

Question 75 of 263

Number: 2769

Question: In an Airborne Weather Radar that has a colour cathode ray tube (CRT) increasing severity of rain and turbulence is generally shown by a change of colour from:

1. green to yellow to red
2. yellow to orange to red
3. green to red to black
4. yellow to amber to blue

Question 76 of 263

Number: 2770

Question: When an aircraft is operating its Secondary Surveillance Radar in Mode C an air traffic controller's presentation gives information regarding the aircraft's indicated flight level in increments of:

1. 150 FT
2. 250 FT
3. 100 FT
4. 200 FT

Question 77 of 263

Number: 2773

Question: A radar facility transmitting at a Pulse Recurrence Frequency (PRF) of 1200 pulses/second will have a maximum unambiguous range of approximately:

1. 69 NM
2. 270 NM
3. 27 NM
4. 135 NM

Question 78 of 263

Number: 2904

Question: The frequency of an SSR ground transmission is:

1. 1120 +/- 0.6 MHz
2. 1090 +/- 0.3 MHz
3. 1050 +/- 0.5 MHz
4. 1030 +/- 0.2 Mhz

Question 79 of 263

Number: 10742

Question: The frequency which corresponds to a wavelength of 12 cm is:

1. 2500 MHz.

2. 2500 kHz.
3. 3600 MHz.
4. 360 MHz.

Question 80 of 263

Number: 10109

Question: Distance Measuring Equipment (DME) operates in the:

1. UHF band and uses two frequencies 
2. UHF band and uses one frequency
3. SHF band and uses frequency modulation techniques
4. VHF band and uses the principle of phase comparison

Question 81 of 263

Number: 5924

Question: Which of the following equipments uses primary radar principles?

1. Airborne weather radar (AWR) 
2. Global Positioning System (GPS)
3. Secondary Surveillance Radar (SSR)
4. Distance Measuring Equipment (DME)

Question 82 of 263

Number: 5925

Question: Which of the following equipments works on the interrogator/transponder principle?

1. Global Positioning System (GPS)
2. Aerodrome Surface Movement Radar
3. Airborne Weather Radar (AWR)
4. Secondary Surveillance Radar (SSR) 

Question 83 of 263

Number: 5926

Question: In order to indicate an emergency situation, the aircraft Secondary Surveillance Radar (SSR) transponder should be set to:

1. 7500
2. 7000
3. 7700 
4. 7600

Question 84 of 263

Number: 5927

Question: The theoretical maximum range for an Airborne Weather Radar is determined by the:

1. pulse length
2. carrier wave frequency
3. pulse recurrence frequency 
4. beamwidth

Question 85 of 263

Number: 5930

Question: The selection of code 7500 on an aircraft SSR transponder indicates:

1. radio communication failure
2. unlawful interference with the planned operation of the flight ✓
3. transponder malfunction
4. an emergency

Question 86 of 263

Number: 5931

Question: The selection of code 7600 on an aircraft SSR transponder indicates:

1. an emergency
2. unlawful interference with the planned operation of the flight
3. transponder malfunction
4. radio communication failure ✓

Question 87 of 263

Number: 5932

Question: The selection of code 7700 on an aircraft SSR transponder indicates:

1. an emergency ✓
2. transponder malfunction
3. unlawful interference with the planned operation of the flight
4. radio communication failure

Question 88 of 263

Number: 5933

Question: In a primary radar using pulse technique, pulse length determines:

1. beam width
2. target discrimination
3. minimum measurable range ✓
4. maximum measurable range

Question 89 of 263

Number: 5934

Question: In a primary radar using pulse technique, pulse recurrence frequency (PRF)/pulse recurrence rate (PRR) determines:

1. target discrimination
2. minimum range
3. beam width
4. maximum theoretical range ✓

Question 90 of 263

Number: 5935

Question: In a primary radar using pulse technique, the ability to discriminate between targets in azimuth is a factor of:

1. pulse length
2. Pulse Recurrence Rate (PRR)
3. aerial rotation rate

4. beam width

Question 91 of 263

Number: 5936

Question: Which of the following radar equipments operate by means of the pulse technique? 1. Aerodrome Surface Movement Radar 2. Airborne Weather Radar 3. Secondary Surveillance Radar (SSR) 4. Aerodrome Surveillance (approach) Radar

1. 1, 2, 3 and 4
2. 1, 2 and 4 only
3. 2 and 4 only
4. 2, 3 and 4 only

Question 92 of 263

Number: 5937

Question: On which of the following radar displays is it possible to get an indication of the shape, and to some extent the type, of the aircraft generating the return?

1. Aerodrome Surveillance (approach) Radar
2. Airborne Weather Radar (AWR)
3. Aerodrome Surface Movement Radar (ASMR)
4. Secondary Surveillance Radar (SSR)

Question 93 of 263

Number: 12866

Question: Considering a primary radar system, what kind of aerials are used?

1. One directional antenna for transmitting and one for receiving.
2. An omnidirectional antenna for transmitting, and a directional antenna for receiving.
3. One directional antenna both for transmitting and for receiving.
4. A directional antenna for transmitting, and an omnidirectional antenna for receiving.

Question 94 of 263

Number: 12883

Question: An aeroplane flies over position A which is due North of a VOR station sited at position B. The magnetic variation at A is 18°W, and at B is 10°W. What radial from B is the aircraft on?

1. 342°
2. 010°
3. 018°
4. 350°

Question 95 of 263

Number: 12891

Question: Regarding the DME system, which one of the following statements is true?

1. DME operates in the VHF frequency band.
2. When passing overhead the DME station the DME will indicate 0.
3. The DME measures the phase difference between the reference and variable phase signals to calculate the distance.

4. The transponder reply carrier frequency differs by 63 MHz from that of the interrogation signal.

Question 96 of 263

Number: 12677

Question: Which of the following lists the phenomena least likely to be detected by radar?

1. turbulence in cloud that has precipitation
2. wet snow and turbulence in cloud that has precipitation
3. precipitation
4. clear air turbulence

Question 97 of 263

Number: 12680

Question: Which of the following is correct regarding false beams on a glide path?

1. False beams will only be found below the correct glide path.
2. False beams will only be found above the correct glide path.
3. False beams will only be found more than 10 degrees to the left or to the right of the localiser centreline.
4. False beams are only present when flying a back-beam ILS approach.

Question 98 of 263

Number: 12682

Question: Which one of the following is an advantage of a secondary radar system when compared to a primary radar system?

1. Possibility of obtaining speed information for aircraft within range.
2. Is not limited to line of sight.
3. The relatively small ground antenna transmits no side lobes, thus eliminating the danger of false replies from the airborne transponder.
4. The required power of transmission from the ground equipment is reduced.

Question 99 of 263

Number: 12688

Question: What is the "Q" code for a magnetic bearing from a VDF station?

1. "Request QTE".
2. "Request QDM".
3. "Request QNH".
4. "Request QDR".

Question 100 of 263

Number: 12690

Question: What information may be displayed on an ATC radar screen connected only to a primary radar system?

1. Aircraft position and SSR code.
2. Aircraft altitude.
3. Aircraft position, SSR code and altitude.

4. Aircraft position only.

Question 101 of 263

Number: 12707

Question: You are on a heading of 090° on the 255 radial from a VOR. You set 190° on your OBS. The deviation bar will show:

1. Full scale deflection right with a 'to' indication
2. Full scale deflection left with a 'to' indication
3. Full scale deflection left with a 'from' indication
4. Full scale deflection right with a 'from' indication

Question 102 of 263

Number: 12708

Question: Which range facility associated with the ILS may be identified by a two-letter identification group?

1. Glide path.
2. Locator.
3. Outer marker.
4. Inner marker.

Question 103 of 263

Number: 12709

Question: Which one of the statements below is correct regarding the DME?

1. The DME operating frequencies are in the UHF frequency band.
2. Two lines of position obtained from two different DME's give an unambiguous fix.
3. The DME ground station is always co-located with a VOR station.
4. The indicated distance is the ground distance measured from the aircraft's projected position on the ground to the DME ground installation.

Question 104 of 263

Number: 12674

Question: Which of the following affects VDF range?

1. Sky wave propagation.
2. Strength of the pilot's voice when transmitting.
3. Coastal refraction.
4. The height of the transmitter and of the receiver.

Question 105 of 263

Number: 12912

Question: Airborne weather radars are generally based on the use of:

1. primary radar in the UHF band
2. primary radar in the SHF band
3. secondary radar in the VHF band

4. secondary radar in the SHF band

Question 106 of 263

Number: 15881

Question: The identification of a DME in combination with a collocated VOR is as follows:

1. Every 30 seconds the DME ident will be repeated.
2. The DME ident will repeat three times every period of 30 seconds.
3. The VOR ident and DME ident are the same and no difference can be heard.
4. In a period of 40 seconds the DME ident will be heard once on an audio frequency of 1350 Hz.

Question 107 of 263

Number: 15902

Question: An aircraft is flying on the 245 radial with a MH of 250º. On the CDI the CRS is set to 060. Which CDI shows the correct indications?

1. Figure A
2. Figure C
3. Figure D 
4. Figure B

Question 108 of 263

Number: 15903

Question: An aircraft is flying on the 170 radial with a MH of 315º. On the CDI the CRS is set to 180. Which CDI shows the correct indications?

1. Figure C
2. Figure A
3. Figure B
4. Figure D 

Question 109 of 263

Number: 15904

Question: An aircraft is flying on a MH of 210°. The magnetic variation at the VOR is 5°W and at the aircraft 10°W. Which VOR-RMI corresponds to the indications on the CDI shown on the Annex?

1. Figure D 
2. Figure C
3. Figure A
4. Figure B

Question 110 of 263

Number: 15905

Question: An aircraft is flying on a MH of 010°. The magnetic variation at the VOR is 10°W and at the aircraft 12°W. Which VOR-RMI corresponds to the indications on the CDI shown on the Annex?

1. Figure D 
2. Figure C
3. Figure A
4. Figure B

Question 111 of 263

Number: 15906

Question: An aircraft is flying on the 245 radial with a MH of 250º. On the HSI the CRS is set to 060. Which HSI shows the correct indications?

1. Figure A
2. Figure D
3. Figure C
4. Figure B

Question 112 of 263

Number: 15907

Question: An aircraft is flying on a MH of 010°. The magnetic variation at the VOR is 10°W and at the aircraft 12°W. Which VOR-RMI corresponds to the indications on the CDI shown on the Annex?

1. Figure D
2. Figure C
3. Figure A
4. Figure B

Question 113 of 263

Number: 15909

Question: An aircraft is flying on the 050 radial with a MH of 250º. On the HSI the CRS is set to 060. Which HSI shows the correct indications?

1. Figure A
2. Figure C
3. Figure D
4. Figure B

Question 114 of 263

Number: 15910

Question: An aircraft is flying on a MH of 210°. The magnetic variation at the VOR is 5°W and at the aircraft 10°W. Which VOR-RMI corresponds to the indications on the HSI shown on the Annex?

1. Figure C
2. Figure A
3. Figure D
4. Figure B

Question 115 of 263

Number: 15911

Question: An aircraft is flying on a MH of 010°. The magnetic variation at the VOR is 10°W and at the aircraft 12°W. Which VOR-RMI corresponds to the indications on the HSI shown on the Annex?

1. Figure B
2. Figure C
3. Figure A
4. Figure D

Question 116 of 263

Number: 15912
Question: An aircraft is flying on the 050 radial with a MH of 250º. On the CDI the CRS is set to 060. Which CDI shows the correct indications?

1. Figure B
2. Figure D
3. Figure A
4. Figure C ✓

Question 117 of 263

Number: 15913
Question: An aircraft is flying on the 170 radial with a MH of 315º. On the HSI the CRS is set to 180. Which HSI shows the correct indications?

1. Figure C ✓
2. Figure A
3. Figure B
4. Figure D

Question 118 of 263

Number: 15914
Question: An aircraft is flying on a MH of 010°. The magnetic variation at the VOR is 10°W and at the aircraft 12°W. Which VOR-RMI corresponds to the indications on the HSI shown on the Annex?

1. Figure B
2. Figure C ✓
3. Figure D
4. Figure A

Question 119 of 263

Number: 15971
Question: Locators are:

1. high powered NDBs used for en route and airways navigation.
2. LF/MF NDBs used as an aid for final approach. ✓
3. low powered ADFs used for airfield or runway approach.
4. beacons with a range of 10 to 250 NM.

Question 120 of 263

Number: 15941
Question: The type of modulation used for the ILS frequency carrier is:

1. amplitude modulation. ✓
2. phase modulation.
3. dual modulation.
4. frequency modulation.

Question 121 of 263

Number: 15803
Question: In an ILS, concerning the localiser principle of operation, the difference in depth of modulation (DDM) will:

1. increase from center position to half full scale of the needle of the indicator and decrease until full scale of the needle
2. increase with left displacement from the centerline and decrease with right displacement from the centerline.
3. increase with displacement from the centerline.
4. decrease with displacement from the centerline.

Question 122 of 263

Number: 15804

Question: Concerning the glidepath principle of operation in an ILS, the difference in depth of modulation (DDM) will:

1. increase from center position to half full scale of the needle of the indicator and decrease until full scale of the needle.
2. increase with displacement above the glidepath and decrease with displacement below the glidepath.
3. decrease with linear displacement above or below the glidepath.
4. increase with displacement above or below the glidepath.

Question 123 of 263

Number: 15796

Question: 'Beam bends' in the ILS approach path are

1. slight curves that can be followed by large aircraft.
2. curved approaches made with the aid of the instrument landing system.
3. curves in the normal approach procedure because of 'noise abatement'.
4. curves in the glide path that are visible on the indicator, but change too fast to be followed by large aircraft.

Question 124 of 263

Number: 15736

Question: A VOR and an NDB are located in the same position. Both the VOR- and the ADF-readings are displayed on the RMI. The aircraft is tracking away from the beacons along the 090 radial. The magnetic variation is changing rapidly. Which of the following is correct?

1. The direction of the VOR pointer will change, the direction of the ADF pointer will not change.
2. The direction of the ADF pointer will change, the direction of the VOR pointer will not change.
3. Neither the direction of the ADF pointer nor the direction of the VOR pointer will change.
4. Both the direction of the ADF pointer and the direction of the VOR pointer will change.

Question 125 of 263

Number: 15729

Question: On an ILS approach, when flying overhead the middle marker the color of the flashing light will be:

1. amber.
2. blue.
3. white.
4. green.

Question 126 of 263

Number: 15730

Question: On an ILS approach, when flying overhead the inner marker (if available) the color of the flashing light will be:

1. green.
2. amber.
3. blue.
4. white. ✓

Question 127 of 263

Number: 15762

Question: The ILS marker with the lower aural frequency is the:

1. inner marker (if available).
2. centreline marker.
3. middle marker.
4. outer marker. ✓

Question 128 of 263

Number: 15703

Question: ADF is the abbreviation for:

1. Automatic Direction Finder. ✓
2. Automatic Detection Finding.
3. Aircraft Direction Finding.
4. Aircraft Directional finder.

Question 129 of 263

Number: 15687

Question: Two aircraft are located on (arbitrary) different radials but at equal distances from a VOR-station. Which statement is true?

1. At a certain moment of time, both the phase of the reference signals and of the variable signals are unequal for both aircraft.
2. At a certain moment of time the phase of the reference signals is unequal and the phase of variable signals is equal for both aircraft.
3. At a certain moment of time the phase of the reference signals is equal and the phase of variable signals is unequal for both aircraft. ✓
4. At a certain moment of time, both the phase of the reference signals and of the variable signals are equal for both aircraft.

Question 130 of 263

Number: 15688

Question: Two aircraft are located on the same radial but at (arbitrary) different distances from a VOR-station. Which statement is true?

1. At a certain moment of time, the phase of the reference signals is unequal and the phase of variable signals is equal for both aircraft.

2. At a certain moment of time, both the phase of the reference signals and of the variable signals are equal for both aircraft. ✓
3. At a certain moment of time, the phase of the reference signals is equal and the phase of variable signals is unequal for both aircraft.
4. At a certain moment of time, both the phase of the reference signals and of the variable signals are unequal for both aircraft.

Question 131 of 263

Number: 15533

Question: Which statement is correct with respect to the different types of VOR?

1. A DVOR is less accurate than a CVOR.
2. A CVOR is primarily used for instrument approaches.
3. A VOT is located along an airway with the purpose to provide an in-flight check of the airborne equipment.
4. A TVOR has a limited range. ✓

Question 132 of 263

Number: 15553

Question: The ILS receiver of an aircraft on approach and flying on the right of the exact runway centreline will receive:

1. the left lobe modulation only.
2. a modulated signal and will shift the localiser needle to the right according to the magnitude of the difference between the two amplitudes.
3. more of the 150 Hz localiser signal than the 90 Hz localiser signal. ✓
4. the modulation from both lobes at equal amplitude.

Question 133 of 263

Number: 15561

Question: ILS produces:

1. two lobes modulated in frequency by a 90Hz and a 150Hz signal.
2. a radiation pattern which is amplitude modulated by the VHF frequency of the ILS.
3. a 90 Hz lobe and a 150 Hz lobe which are amplitude modulated by the VHF frequency of the ILS.
4. a radiation pattern which is amplitude modulated by a 90Hz and a 150Hz signal. ✓

Question 134 of 263

Number: 15578

Question: 108.35 MHz can only be:

1. a NDB frequency.
2. an ATC frequency.
3. an ILS frequency. ✓
4. a VOR frequency.

Question 135 of 263

Number: 15631

Question: On an ILS approach, when flying overhead the outer marker the color of the flashing light will be:

1. white.
2. amber.
3. blue. ✓
4. green.

Question 136 of 263

Number: 15623

Question: One of uses of the VDF service is providing aircraft with:

1. ground speed.
2. altitude.
3. heading.
4. homing. ✓

Question 137 of 263

Number: 15668

Question: A VOR is situated at the far end of a runway on which an aircraft is making an ILS approach. Nav 1 is switched to the localiser frequency and Nav 2 to the VOR frequency. At the moment that the needle of # 1 indicator reaches the outer dot the deflection of the needle of # 2 indicator will be at:

1. the outer dot.
2. approximately a quarter of the scale. ✓
3. approximately three quarters of the scale.
4. approximately halfway the scale.

Question 138 of 263

Number: 15685

Question: The addition of DME-P to MLS is necessary to

1. allow linear approaches.
2. support the time referenced scanning beam.
3. obtain three dimensional positions. ✓
4. assure a constant angular velocity of the azimuth and elevation sweep.

Question 139 of 263

Number: 15521

Question: Night Effect in an ADF may cause:

1. A constant error in the indicated bearing.
2. Noise in the received EM-wave, which hardly will be noticed by the pilot looking at the RMI.
3. Fluctuating indications of the needle on the RMI. ✓
4. No bearing error because of the built-in compensator unit.

Question 140 of 263

Number: 15522

Question: The audio frequency modulation of the outer marker shall be keyed as follows:

1. 3 dashes, 3 dots and 3 dashes per second continuously.

2. 2 dashes per second continuously.
3. a continuous series of alternate dots and dashes.
4. 6 dots per second continuously.

Question 141 of 263

Number: 15523

Question: The audio frequency modulation of the inner marker (if available) shall be keyed as follows:

1. a continuous series of alternate dots and dashes.
2. 6 dots per second continuously.
3. 3 dashes, 3 dots and 3 dashes per second continuously.
4. 2 dashes per second continuously.

Question 142 of 263

Number: 15513

Question: An aircraft is on the 065 radial with a heading of 090ºM. The Course Reference Selector (CRS) is set on 240. Which HSI shows the correct indications?

1. C
2. D
3. B
4. A

Question 143 of 263

Number: 15504

Question: Inner marker beacons of an ILS transmit at:

1. 90 Hz.
2. It depends on the modulating frequency.
3. 150 MHz.
4. 75 MHz.

Question 144 of 263

Number: 15505

Question: All ILS marker beacons transmit at:

1. 90 MHz.
2. It depends on the modulating frequency.
3. 150 MHz.
4. 75 MHz.

Question 145 of 263

Number: 15506

Question: Middle marker beacons of an ILS transmit at:

1. 90 MHz.
2. 1300 Hz.
3. 150 MHz.

4. 75 MHz. ✓

Question 146 of 263

Number: 15507

Question: Outer marker beacons of an ILS transmit at:

1. 75 MHz. ✓
2. 75 Hz.
3. 150 MHz.
4. 90 MHz.

Question 147 of 263

Number: 15492

Question: The ILS middle marker modulation frequency is:

1. 800 Hz.
2. 1300 Hz. ✓
3. 3000 Hz.
4. 400 Hz.

Question 148 of 263

Number: 15487

Question: According to ICAO Annex 10 a locator has a range of:

1. 75 to150 NM
2. 7.5 to15 NM
3. 75 to 250 NM
4. 10 to 25 NM ✓

Question 149 of 263

Number: 15387

Question: Given: Aircraft position 36°15'S 178°E, magnetic variation 21°W, FL 310. UEB VOR/DME position 36°15'S 178°W, magnetic variation 21°E. In order to read the most accurate ground speed on the DME receiver from his present position, the pilot must fly which UEB radial?

1. 291°
2. 069°
3. 111°
4. 249° ✓

Question 150 of 263

Number: 15376

Question: An aircraft, on a heading of 180°M is on a bearing of 270°M from a VOR. The bearing you should select on the OMNI bearing selector to centralise the VOR/ILS left/right deviation needle is:

1. 270°
2. 180°
3. 360°

4. 090°

Question 151 of 263

Number: 15410

Question: The Glide Path antenna is located on the side of the runway approximately

1. 200 m before the threshold
2. 300 m beyond the threshold
3. 200 m beyond the ILS reference point.
4. 300 m from the far end of the runway

Question 152 of 263

Number: 15436

Question: The ILS inner marker (if available) modulation frequency is:

1. 240 Hz.
2. 3000 Hz.
3. 1300 Hz.
4. 400 Hz.

Question 153 of 263

Number: 15417

Question: The localiser transmitters operate in a frequency band between:

1. 329.15 MHz and 335 MHz.
2. 111.975 MHz and 117.975 MHz.
3. 108 MHz and 111.975 MHz.
4. 108 MHz and 117.975 MHz.

Question 154 of 263

Number: 16886

Question: Given: Aircraft position 52°09'S 024°E, magnetic variation 14°W, FL 310. BIT VOR/DME position 54°42'S 024°E, magnetic variation 14°E. In order to read the most accurate ground speed given by the DME receiver from his present position, the pilot must follow which BIT radial?

1. 346°
2. 166°
3. 194°
4. 014°

Question 155 of 263

Number: 1510

Question: Airborne weather radar systems use a wavelength of approximately 3 cm in order to:

1. transmit at a higher pulse repetition frequency for extended range
2. detect the smaller cloud formations as well as large
3. obtain optimum use of the Cosecant squared beam
4. detect the larger water droplets

Question 156 of 263

Number: 1511

Question: The ISO-ECHO facility of an airborne weather radar is provided in order to:

1. detect areas of possible severe turbulence in cloud ✓
2. give an indication of cloud tops
3. extend the mapping range
4. inhibit unwanted ground returns

Question 157 of 263

Number: 1512

Question: In the MAPPING MODE the airborne weather radar utilises a:

1. pencil beam to a maximum range of 60 NM
2. pencil beam effective from zero to 150 NM
3. fan shaped beam effective up to a maximum of 50 NM to 60 NM range ✓
4. fan shaped beam effective up to a range of 150 NM

Question 158 of 263

Number: 1513

Question: Which of the following cloud types is most readily detected by airborne weather radar?

1. cirrocumulus
2. stratus
3. altostratus
4. cumulus ✓

Question 159 of 263

Number: 1514

Question: Why is a secondary radar display screen free of storm clutter?

1. The frequencies employed are too low to give returns from moisture sources
2. A moving target indicator facility suppresses the display of static or near static returns
3. The principle of 'echo' return is not used in secondary radar ✓
4. The frequencies employed are too high to give returns from moisture sources

Question 160 of 263

Number: 1515

Question: In order to indicate radio failure the aircraft SSR transponder should be selected to code:

1. 7500
2. 7000
3. 7600 ✓
4. 7700

Question 161 of 263

Number: 1516

Question: In order to indicate unlawful interference with the planned operation of the flight, the aircraft Secondary Surveillance Radar (SSR) transponder should be selected to:

1. 7700
2. 7600

3. 7000
4. 7500 ✓

Question 162 of 263

Number: 1479

Question: The maximum theoretical range at which an aircraft at FL80 can obtain bearings from a ground VDF facility sited 325 ft above MSL ?

1. 114 NM
2. 158 NM
3. 132 NM ✓
4. 107 NM

Question 163 of 263

Number: 1489

Question: An airway 10 NM wide is to be defined by two VORs each having a resultant bearing accuracy of plus or minus 5.5°. In order to ensure accurate track guidance within the airway limits the maximum distance apart for the transmitter is approximately: (Disregard changeover point)

1. 165 NM
2. 210 NM
3. 50 NM
4. 105 NM ✓

Question 164 of 263

Number: 1498

Question: The aircraft DME receiver is able to accept replies to its own transmissions and reject replies to other aircraft interrogations because:

1. pulse pairs are amplitude modulated with the aircraft registration
2. transmission frequencies are 63 MHz different for each aircraft
3. aircraft interrogation signals and transponder responses are 63 MHz removed from each other
4. the time interval between pulse pairs is unique to that particular aircraft ✓

Question 165 of 263

Number: 1499

Question: The aircraft DME receiver cannot lock on to interrogation signals reflected from the ground because:

1. aircraft transmitter and DME ground station are transmitting on different frequencies ✓
2. DME pulse recurrence rates are varied
3. reflections are subject to doppler frequency shift
4. DME transmits twin pulses

Question 166 of 263

Number: 3235

Question: In general the operation of airborne weather radar equipment on the ground is:

1. unrestrictedly permitted in aerodrome maintenance areas

2. only permitted with certain precautions, to safeguard health of personnel and to protect equipment

3. totally prohibited
4. permitted anywhere

Question 167 of 263

Number: 3236

Question: Complete the following statement. Aircraft Surface movement Radar operates on frequencies in the (i) ..... band employing an antenna that rotates at approximately (ii) ..... revolutions per minute; it is (iii) ..... possible to determine the type of aircraft from the return on the radar screen.

1. (i) EHF (ii) 100 (iii) never
2. (i) SHF (ii) 10 (iii) always
3. (i) EHF (ii) 30 (iii) never
4. (i) SHF (ii) 60 (iii) sometimes

Question 168 of 263

Number: 3239

Question: The pencil shaped beam of an airborne weather radar is used in preference to the mapping mode for the determination of ground features:

1. beyond 50 to 60 NM because more power can be concentrated in the narrower beam
2. beyond 100 NM because insufficient antenna tilt angle is available with the mapping mode
3. when approaching coast-lines in polar regions
4. beyond 150 NM because the wider beam gives better definition

Question 169 of 263

Number: 3241

Question: The maximum pulse repetition frequency (PRF) that can be used by a primary radar facility in order to detect targets unambiguously at a range of 50 NM is: (pps = pulses per second)

1. 610 pps

2. 1620 pps
3. 713 pps
4. 3240 pps

Question 170 of 263

Number: 3243

Question: Ignoring pulse length and fly-back, a radar facility designed to have a maximum unambiguous range of 50 km will have a PRF (pulses per second) of:

1. 167
2. 6000
3. 330

4. 3000

Question 171 of 263

Number: 3244

Question: Which combination of characteristics gives best screen picture in a primary search radar?

1. long pulse length and wide beam

2. short pulse length and wide beam
3. short pulse length and narrow beam 
4. long pulse length and narrow beam

Question 172 of 263

Number: 3249

Question: The minimum range of a primary radar, using the pulse technique, is determined by the (i)..... ; the maximum unambiguous range by the (ii).....

1. (i) transmission frequency (ii) pulse recurrence frequency
2. (i) pulse length (ii) pulse recurrence frequency 
3. (i) transmission frequency (ii) transmitter power output
4. (i) pulse length (ii) length of the timebase

Question 173 of 263

Number: 3250

Question: "Hertz" (Hz) unit is defined as:

1. the distance covered by a radio wave in one second.
2. the duration of an oscillation.
3. the number of oscillations per minute of an electromagetic wave.
4. the number of oscillations per second of an electromagnetic wave. 

Question 174 of 263

Number: 3253

Question: A ground radar transmitting at a PRF of 1200 pulses/second will have a maximum unambiguous range of approximately:

1. 270 NM
2. 135 NM
3. 27 NM
4. 67 NM 

Question 175 of 263

Number: 3303

Question: An aircraft at 6400 FT will be able to receive a VOR groundstation at 100 FT above MSL at an approximate maximum range of:

1. 110 NM 
2. 120 NM
3. 90 NM
4. 100 NM

Question 176 of 263

Number: 3304

Question: An aircraft at FL 100 should be able to receive a VOR groundstation at 100 FT above MSL at an approximate maximum range of:

1. 142 NM
2. 130 NM
3. 123 NM

4. 135 NM

Question 177 of 263

Number: 3309

Question: Given: Course Deviation Indicator (CDI) for a VOR is selected to 090°. From/To indicator indicates "TO". CDI needle is deflected halfway to the right. On what radial is the aircraft?

1. 275
2. 095
3. 085
4. 265

Question 178 of 263

Number: 3310

Question: Of what use, if any, is a military TACAN station to civil aviation ?

1. It is of no use to civil aviation
2. It can provide a magnetic bearing
3. It can provide a DME distance and magnetic bearing
4. It can provide DME distance

Question 179 of 263

Number: 3316

Question: The maximum range of primary radar depends on:

1. frequency
2. pulse recurrence frequency
3. pulse length
4. wave length

Question 180 of 263

Number: 3317

Question: A frequency of airborne weather radar is:

1. 9375 GHz
2. 9375 MHz
3. 93.75 MHz
4. 9375 kHz

Question 181 of 263

Number: 3318

Question: The ATC transponder system,excluding Mode S, contains :

1. two modes, each of 4096 codes
2. two modes, each 1024 codes
3. four modes, each 1024 codes
4. four modes, each 4096 codes

Question 182 of 263

Number: 4763

Question: For any given circumstances, in order to double the effective range of a primary radar the power output must be increased by a factor of:

1. 2
2. 4
3. 8
4. 16 ✓

Question 183 of 263

Number: 4764

Question: The prime factor in determining the maximum unambiguous range of a primary radar is the:

1. pulse recurrence rate ✓
2. height of the transmitter above the ground
3. size of parabolic receiver aerial
4. power output

Question 184 of 263

Number: 4765

Question: In accordance with the International Telecommunication Union (ITU) a radio signal can be classifired by three symbols. The first symbol indicates: (eg A1A)

1. nature of the signal modulating the main carrier.
2. type of modulation of the secondary carrier.
3. type of information to be transmitted.
4. type of modulation of the main carrier. ✓

Question 185 of 263

Number: 4722

Question: HF (High Frequency) waves appear in the frequency spectrum:

1. 300 MHz - 3000 MHz
2. 30 MHz - 300 MHz
3. 3 MHz - 30 MHz ✓
4. 3 kHz - 30 kHz

Question 186 of 263

Number: 4723

Question: UHF (Ultra High Frequency) waves appear in the frequency spectrum:

1. 3 GHz - 30 GHz
2. 300 MHz - 3000 MHz ✓
3. 3 MHz - 30 MHz
4. 30 MHz - 300 MHz

Question 187 of 263

Number: 4724

Question: An NDB transmits on 427 kHz, the corresponding wavelength is:

1. 7025cm
2. 702,5cm

3. 70,25cm
4. 702,5m ✓

Question 188 of 263

Number: 4727

Question: Wavelength of frequency 117.95 MHz is:

1. 254m
2. 2.5m ✓
3. 250m
4. 25m

Question 189 of 263

Number: 4933

Question: Which statement is true about the use of the Doppler effect in a Doppler VOR?

1. The Doppler effect is used to create a signal which is received by the aircraft's VOR receiver as an amplitude modulated signal.
2. The Doppler effect is used to create a signal which is received by the aircraft's VOR receiver as a frequency modulated signal. ✓
3. By using the Doppler effect it is possible to determine the range of the aircraft from the VOR station more accurately.
4. By using the Doppler effect it is also possible to determine the aircraft's approacg speed to the VOR.

Question 190 of 263

Number: 4934

Question: LF (low frequency) waves appear in the frequency spectrum:

1. 30 Hz - 300 Hz
2. 300 MHz - 3000 MHz
3. 3 MHz - 30 MHz
4. 30 kHz - 300 kHz ✓

Question 191 of 263

Number: 5585

Question: A weather radar, set to the 100 NM scale, shows a squall at 50NM. By changing the scale to 50 NM, the return on the radar screen should:

1. decrease in area and move to the top of the screen
2. increase in area and appear nearer to the bottom of the screen
3. increase in area and move to the top of the screen ✓
4. decrease in area but not change in position on the screen

Question 192 of 263

Number: 5586

Question: A secondary radar can provide up to 4096 different codes. These 4096 codes can be used in:

1. mode S
2. mode A only
3. mode C only

4. all modes

Question 193 of 263

Number: 5587

Question: In weather radar the use of a cosecant beam in 'Mapping' mode enables:

1. better reception of echos on contrasting terrain such as ground to sea
2. higher definition echoes to be produced giving a clearer picture
3. scanning of a large ground zone producing echos whose signals are practically independent of distance

4. a greater radar range to be achieved

Question 194 of 263

Number: 5588

Question: The code transmitted by a SSR transponder consists of:

1. frequency differences
2. amplitude differences
3. phase differences

4. pulses

Question 195 of 263

Number: 5732

Question: In which frequency band do most airborne weather radars operate?

1. VHF
2. UHF

3. SHF
4. EHF

Question 196 of 263

Number: 5733

Question: The maximum range obtainable from an ATC Long Range Surveillance Radar is approximately:

1. 50-100 NM

2. 200-300 NM
3. 300-400 NM
4. 100-200 NM

Question 197 of 263

Number: 5734

Question: In Airborne Weather Radar (AWR), the main factors which determine whether a cloud will be detected are:

1. rotational speed of radar scanner; range from cloud
2. range from cloud; wavelength/frequency used
3. size of the water drops; diameter of radar scanner

4. size of the water drops; wavelength/frequency used

Question 198 of 263

Number: 5735

Question: In order to ascertain whether a cloud return on an Aircraft Weather Radar (AWR) is at or above the height of the aircraft, the tilt control should be set to: (Assume a beam width of 5°)

1. 2.5° down
2. 5° up
3. 2.5° up ✓
4. 0°

Question 199 of 263

Number: 5736

Question: The design requirements for DME-P (since 2 January 1989) stipulates that the total system error should not exceed:

1. 0.25NM
2. 0.02NM
3. 2NM
4. 0.2NM ✓

Question 200 of 263

Number: 5737

Question: The electromagnetic waves refracted from the E and F layers of the ionosphere are called:

1. sky waves ✓
2. space waves
3. ground waves
4. refracted waves

Question 201 of 263

Number: 5786

Question: DME channels utilise frequencies of approximately:

1. 300 MHz
2. 110 MHz
3. 600 MHz
4. 1000 MHz ✓

Question 202 of 263

Number: 5789

Question: In relation to radar systems that use pulse technology, the term 'Pulse Recurrence Rate (PRR)' signifies the:

1. ratio of pulse period to pulse width
2. the number of cycles per second
3. number of pulses per second ✓
4. delay after which the process re-starts

Question 203 of 263

Number: 5791

Question: The advantage of the use of slotted antennas in modern radar technology is to:

1. virtually eliminate lateral lobes and as a consequence concentrate more energy in the main beam

2. simultaneously transmit weather and mapping beams
3. eliminate the need for azimuth slaving
4. have a wide beam and as a consequence better target detection

Question 204 of 263

Number: 5793

Question: Which of the following lists the phenomena least likely to be detected by radar?

1. precipitation

2. clear air turbulence
3. wet snow and turbulence in cloud that has precipitation
4. turbulence in cloud that has precipitation

Question 205 of 263

Number: 11027

Question: An aircraft, at FL 410 is passing overhead a DME station at mean sea level. The DME indicates approximately:

1. 6.8 km
2. 6.1 km

3. 6.8 NM
4. 6.1 NM

Question 206 of 263

Number: 14189

Question: Mode A or C garbling may occur to:

1. Two or more aircraft in the same direction from the interrogator with a difference in slant range of less than 1.7NM

2. Two or more aircraft in the same direction from the ground station at the same altitude with a difference in slant range of more than 1.7NM
3. Two or more aircraft different directions from the interrogator at the same altitude with a difference in slant range of less than 1.7NM
4. Two or more aircraft different directions from the ground station at the same altitude with a difference in slant range of more than 1.7NM

Question 207 of 263

Number: 14195

Question: In a primary pulse radar you have:

1. a directional aerial for transmission and an omni-directional aerial for reception
2. an omni-directional aerial for transmission and directional aerial for reception

3. a directional aerial for both transmission and reception
4. a directional aerial for transmission and another one for reception

Question 208 of 263

Number: 14196

Question: A radio altimeter employing a continuous wave signal would have:

1. a directional aerial for both transmission and reception
2. an omni-directional aerial for transmission and directional aerial for reception
3. a directional aerial for transmission and an omni-directional aerial for reception
4. a directional aerial for transmission and another one for reception 

Question 209 of 263

Number: 14203

Question: A TCAS II equipped a/c will have mode S because:

1. the datalink is required to co-ordinate evasive manoeuvres 
2. true altitude is obtained from mode S
3. mode S transmits a 3D position
4. the data link is required to transmit relative position

Question 210 of 263

Number: 14220

Question: How does a Mode S interrogator identify aircraft?

1. the four letter SELCAL code
2. an eight bit identifier, which gives 212 unique combinations
3. a 24 bit identifier, giving over 16 million combinations 
4. the P3 pulse

Question 211 of 263

Number: 14222

Question: What is a VDF referenced to?

1. Relative bearing to the aircraft
2. Magnetic north at the station 
3. Magnetic north at the aircraft
4. True north at the aircraft

Question 212 of 263

Number: 15246

Question: An aircraft has a Magnetic Heading of 290º and is on VOR radial 280. Which value has to be selected on the OBS to get a TO indication and the CDI centred?

1. 290°
2. 110°
3. 100° 
4. 280°

Question 213 of 263

Number: 15235

Question: On final on an ILS approach, you are flying overhead the outer marker. You can expect to be at:

1. 4 NM from the threshold. 
2. 25 NM from the threshold.

3. 1 NM from the threshold.
4. 10 NM from the threshold.

Question 214 of 263

Number: 15230

Question: Allocated frequencies for NDB are:

1. 190 kHz to 1750 kHz. 
2. 19 Hz to 17500 Hz.
3. 1900 kHz to 17500 kHz.
4. 1.90 kHz to 17.50 kHz.

Question 215 of 263

Number: 15292

Question: The basic principle of operation of the ILS is the difference in depth of modulation (DDM) between the two lobes: 1. if the aircraft strays right, the higher tone lobe will be received at a higher intensity than the lower tone lobe. 2. a DDM of zero indicates the exact runway centreline. 3. the depth of modulation increases away from the centerline. 4. a DDM of zero indicates a balance between modulations. The combination that regroups all the corrects statements is:

1. 1 and 3.
2. 1, 2, 3 and 4. 
3. 2 and 3.
4. 2, 3 and 4.

Question 216 of 263

Number: 15293

Question: The basic principle of operation of the ILS is the difference in depth of modulation (DDM) between the 90 Hz and 150 Hz lobes. A DDM of zero indicates: 1. the higher tone lobe is received at a higher strenght than the lower tone lobe. 2. the exact runway centreline 3. the aircraft is on the glidepath. 4. a balance between modulations.

1. 2 and 3.
2. 1 and 3.
3. 2, 3 and 4. 
4. 1, 2 and 4.

Question 217 of 263

Number: 15294

Question: Which of the following list use the VHF band: 1. Locator 2. Localiser 3. Outer Marker 4. Glide path The combination that regroups all the corrects statements is:

1. 1, 2, 3 and 4.
2. 2 and 4.
3. 1 and 3.
4. 2 and 3. 

Question 218 of 263

Number: 15295

Question: The audio frequency modulation of the middle marker shall be keyed as follows:

1. a continuous series of alternate dots and dashes, the dashes keyed at the rate of 2 dashes per second, and the dots at the rate of 6 dots per second.
2. 3 dashes, 3 dots and 3 dashes per second continuously.
3. 2 dashes per second continuously.
4. 6 dots per second continuously.

Question 219 of 263

Number: 15285

Question: Given : Aircraft position 34°15'N 098°E, magnetic variation 28°W, FL 280. PTC VOR/DME position 36°12'N 098°E, magnetic variation 13°E. In order to read the most accurate ground speed given by the DME receiver from his present position, the pilot must fly on which PTC Radial?

1. 167°
2. 332°
3. Aircraft will not receive DME information from PTC due to the line of sight rule.
4. 193°

Question 220 of 263

Number: 15262

Question: The ILS outer marker modulation frequency is:

1. 400 Hz.
2. 1500 Hz.
3. 3000 Hz.
4. 1300 Hz.

Question 221 of 263

Number: 15339

Question: Range of VDF depends on: 1. Loudness of the voices of the pilot and the operator when transmitting. 2. Power of airborne and ground transmitters. 3. Power of pilot voice when transmitting. 4.. Aircraft altitude and ground transmitter elevation The combination regrouping all the correct statements is:

1. 1.
2. 3 and 4.
3. 2.
4. 2 and 4.

Question 222 of 263

Number: 14986

Question: What is the function of a FM-immune filter?

1. To make both the ILS-localizer- and glide path receiver less susceptible to interference from earth-reflected localizer-signals.
2. To make the ILS localizer receiver less susceptible to interference from earth-reflected localizer-signals.
3. To make the ILS-localizer receiver less susceptible to interference from commercial FM-stations (radio and television).
4. To make both the ILS-localizer- and glide path receiver less susceptible to interference from commercial FM-stations (radio and television).

Question 223 of 263

Number: 14997

Question: On the RMI the tip of a VOR needle indicates 060. With the CRS set on 055 the indications on the HSI are

1. FROM, half scale deflection to the left.
2. FROM, half scale deflection to the right.
3. TO, half scale deflection to the right. ✓
4. TO, half scale deflection to the left.

Question 224 of 263

Number: 14940

Question: How can a DME-interrogator distinguish between its own reply pulse-pairs and the reply pulse-pairs of other aircraft in the area, using the same DME-station?

1. The Pulse Repetition Frequency of the pulse-pairs transmitted by the interrogator varies, for each interrogator, in a unique rhythm. ✓
2. On the Y-channel the time-interval between the pulses of an interrogator pulse-pair is 36 msec and of a transponder pulse-pair 30 msec.
3. The time-interval between both pulses of consecutive pulse-pairs transmitted by the interrogator varies, for each interrogator, in a unique pattern.
4. The DME-transponder uses a slightly different, randomly varying, delay for each interrogating aircraft.

Question 225 of 263

Number: 14949

Question: Unless otherwise specified a radial is

1. the true great circle direction from the beacon.
2. the magnetic great circle direction from the beacon. ✓
3. the true great circle direction to the beacon.
4. the magnetic great circle direction to the beacon.

Question 226 of 263

Number: 14950

Question: The localiser transmits in:

1. the UHF band.
2. both UHF and VHF bands.
3. the VHF band. ✓
4. the HF band.

Question 227 of 263

Number: 14972

Question: The reason for using different frequencies for the airborne and ground equipment of a DME is

1. to prevent that DME interrogation pulse pairs being received by the aircraft after reflection on the earth surface. ✓
2. that side lobes can be suppressed by the Side Lobe Suppressor (SLS).
3. to avoid second trace returns when a DME is more than 200 NM away.
4. that more DME frequencies are available for different beacons.

Question 228 of 263

Number: 14962

Question: What is the effect of FM broadcast stations that transmit on frequencies just below 108 MHz on the performance of ILS.

1. These transmissions may interfere with the ILS localizer and glide path signals which may lead to erroneous deviation indications.
2. These transmissions may activate the FM immune filter which results in the appearance of the localizer and glide path failure flag.
3. These transmissions may activate the FM immune filter which results in the appearance of the localizer failure flag.
4. These transmissions may interfere with the ILS localizer signal which may lead to erroneous localizer deviation indication. ✓

Question 229 of 263

Number: 14861

Question: Concerning the localiser principle of operation in an ILS, the needle of the aircraft indicator is centred when the difference in depth of modulation (DDM) is:

1. less than 90 Hz.
2. null. ✓
3. more than 150 Hz.
4. maximum.

Question 230 of 263

Number: 14862

Question: Concerning the glidepath principle of operation in an ILS system, the needle of the indicator is centred when the difference in depth of modulation (DDM) is:

1. 150 Hz or 90 Hz.
2. less than 90 Hz.
3. maximum.
4. null. ✓

Question 231 of 263

Number: 14868

Question: An ILS receiver:

1. measures the phase rotation of the two transmitted signals.
2. measures the phase difference between the two transmitted signals.
3. measures the difference in depth of modulation of the two transmitted signals. ✓
4. compares the difference in frequency of the two transmitted signals.

Question 232 of 263

Number: 14872

Question: MLS is primarily being installed at airports where

1. topographical conditions preclude the installation of ILS marker beacons.
2. the main approach paths lead over water.
3. meteorological conditions are likely to cause ILS ducting by super refraction.

4. ILS encounters difficulties because of surrounding buildings and/or the terrain or interference from local music stations. ✓

Question 233 of 263

Number: 14873

Question: The ILS marker with an aural frequency of 3000 Hz is the:

1. outer marker.
2. inner marker (if available). ✓
3. middle marker.
4. centreline marker.

Question 234 of 263

Number: 14874

Question: The ILS marker identified audibly by a series of dots (6/sec.) is the:

1. middle marker.
2. outer marker.
3. inner marker. ✓
4. locator.

Question 235 of 263

Number: 14922

Question: The DME Line Of Position is a circle with radius:

1. a the ground distance and centre the DME-station.
2. the slant range and centre the aircraft.
3. the ground distance and centre the aircraft.
4. the slant range and centre the DME-station. ✓

Question 236 of 263

Number: 14899

Question: With regard to the range of NDB's and the accuracy of the bearings they provide can be stated that in general at night

1. the range increases and the accuracy decreases. ✓
2. the range and the accuracy both decrease.
3. the range decreases and the accuracy increases.
4. the range and the accuracy both increase.

Question 237 of 263

Number: 14900

Question: Which statement is correct with respect to the range of an NDB?

1. In order to double the range of an NDB, the transmission power should be increased with a factor 16.
2. With propagation over sea the range will be greater than the range with propagation over land. ✓
3. During the night the range of an NDB will decrease due to the interference of the direct- and earth reflected wave.

4. The range depends on the altitude of the aircraft.

Question 238 of 263

Number: 14901

Question: Which statement is correct for homing towards an NDB in an area with constant wind and constant magnetic variation?

1. The Relative Bearing of the NDB should be equal (in magnitude and sign) to the experienced Drift Angle.
2. The Relative Bearing of the NDB should be equal to the QDM.
3. The Relative Bearing of the NDB should be equal (in magnitude and sign) to the applied Wind Correction Angle.
4. The Relative Bearing of the NDB should be kept 000°. ✓

Question 239 of 263

Number: 14902

Question: Which statement is correct for tracking towards an NDB in an area with constant wind and constant magnetic variation?

1. The Relative Bearing of the NDB should be equal (in magnitude and sign) to the experienced Drift Angle. ✓
2. The Relative Bearing of the NDB should be equal to the QDM.
3. The Relative Bearing of the NDB should be equal (in magnitude and sign) to the applied Wind Correction Angle.
4. The Relative Bearing of the NDB should be kept 000°.

Question 240 of 263

Number: 15093

Question: A locator beacon differs from an NDB with respect to: 1. operational use 2. transmission power 3. presentation in the cockpit 4. frequency band. From the above stated differences the following numbers are correct:

1. 1, 2 and 3
2. 2, 3 and 4
3. 1 and 4
4. 1 and 2 ✓

Question 241 of 263

Number: 15113

Question: An aircraft is flying on a MH of 210°. The magnetic variation at the VOR is 5°W and at the aircraft 10°W. According to the HSI shown at the Annex the aircraft is on radial:

1. 195
2. 015
3. 025 ✓
4. 205

Question 242 of 263

Number: 15114

Question: An aircraft is flying on a MH of 210°. The magnetic variation at the VOR is 5°W and at the aircraft 10°W. According to the CDI shown at the Annex the aircraft is on radial:

1. 205
2. 195

3. 025
4. 015

Question 243 of 263

Number: 15127

Question: The reading of the RMI bearing is 300° at the tip of the needle. The magnetic variation at the DR position is 24°W, the magnetic variation at the NDB is 22°W and the deviation is -2°. The compass heading is 020°. The true bearing is:

1. 294°
2. 272°
3. 274°
4. 094°

Question 244 of 263

Number: 15137

Question: Classify the marker from lower aural frequency to higher aural frequency : 1. Inner marker (if available) 2. Middle marker 3. Outer marker

1. 1- 2 - 3
2. 2 - 1 - 3
3. 3 - 2 -1
4. 1 - 3 - 2

Question 245 of 263

Number: 15140

Question: Range of VDF depends on: 1. Line of sight formula 2. Power of transmitters 3. Intervening high ground. The combination regrouping all the correct statements is:

1. 1 and 2.
2. 2.
3. 1, 2 and 3.
4. 1 and 3.

Question 246 of 263

Number: 15141

Question: Locators are: 1. High powered NDBs used for en route and airways navigation. 2. Low powered NDBs used for airfield or runway approach. 3. Beacons with a usually range of 10 to 250 NM. 4. Beacons with a usually range of 10 to 25 NM. The combination regrouping all the correct statements is:

1. 2 and 4.
2. 1 and 4.
3. 2 and 3.
4. 1 and 3.

Question 247 of 263

Number: 15142

Question: Concerning the localiser principle of operation in an ILS system, the difference in depth of modulation (DDM) : 1. decreases with respect to the angular displacement from the centerline. 2. increases with right displacement from the centerline. 3. decreases with left displacement from the centerline. 4.

increases linearly with displacement from the centreline. The combination regrouping all the correct statements is:

1. 2 and 3.
2. 2 and 4. ✓
3. 1 and 4.
4. 1 and 3.

Question 248 of 263

Number: 15151

Question: With respect to the principle of distance measurement using DME can be stated that: 1. the interrogation signal is transmitted on the same frequency as the reply signal. 2. the DME station always has a transponder delay of 50 milliseconds. 3. the time between the pulse pairs of the interrogation signal is at random. 4. In the search mode more pulse pairs per second are transmitted than in the tracking mode. Which of the above given statements are correct?

1. 1, 2, 3, and 4
2. 2, 3 and 4
3. 1 and 2
4. 3 and 4 ✓

Question 249 of 263

Number: 15039

Question: VDF is the abbreviation for:

1. Very High Frequency Deviation Finding Station.
2. VHF Direction Finder. ✓
3. Very direct Finder.
4. VDF Direction Finder.

Question 250 of 263

Number: 15040

Question: The transmission of the glide slope beacon is characterised by a:

1. 300 to 3000 Hz Amplitude modulation for the ATIS.
2. UHF carrier frequency with a possible 'voice ident'.
3. VHF frequency modulated with a 90 Hz AM and 150 Hz AM navigation signal.
4. UHF frequency with a minimum range of 10 NM. ✓

Question 251 of 263

Number: 15041

Question: ILS transmitters use the:

1. UHF band only.
2. UHF and VHF bands. ✓
3. VHF band only.
4. VHF, UHF and HF bands.

Question 252 of 263

Number: 15019

Question: To provide a pilot with the position of the aircraft in the absence of radar, ATC must have at its disposal at least

1. two VDF's at different locations, able to take bearings simultaneously on the transmitted frequency.

2. one VDF able to take simultaneous bearings on different frequencies.
3. three VDF's at different locations able to take simultaneous bearings on different frequencies.
4. two co-located VDF's, able to take bearings simultaneously on the transmitted frequency.

Question 253 of 263

Number: 14734

Question: What is measured in order to establish aircraft position in relation to the localiser beam on an ILS?

1. The bearing to the localiser antenna found by means of a loop antenna.
2. The difference in time between the 90 Hz modulation and the 150 Hz modulation.
3. The difference in depth between the 90 Hz modulation and the 150 Hz modulation.

4. The difference in phase between the 90 Hz modulation and the 150 Hz modulation.

Question 254 of 263

Number: 14735

Question: Which of the following alternatives is correct regarding audio- and visual signals in the cockpit when passing overhead a middle marker?

1. Audio: 3000 Hz, alternating dots and dashes. Visual: Amber light flashes.
2. Audio: 75 MHz, 2 dashes per second. Visual: Blue light flashes.
3. Audio: 400 Hz, 2 dashes per second. Visual: Blue light flashes.
4. Audio: 1300 Hz, alternating dots and dashes. Visual: Amber light flashes.

Question 255 of 263

Number: 6000

Question: Which statement about the error and effects on NDB radio signals is correct?

1. Shore line effects may cause a huge bearing error due to reflection of the raido signal onto steep coasts.
2. Night effect is the result of interference of the surface wave and the space wave causing a reduction in range.
3. The mountain effect is caused by reflections onto steep slope of mountainous terrain which may cause big errors in the bearing.

4. Lightning during atmospheric disturbances may cause a reduction of the signal strength that may result in only slight bearing errors.

Question 256 of 263

Number: 6001

Question: With regard to the range of NDB's and the accuracy of the bearings they provide can be stated that in general at night:

1. the range and accuracy both increase.
2. the range increases and the accuracy decreases.

3. the range and accuracy both decrease.
4. the range decreases and the accuracy increases.

Question 257 of 263

Number: 6002

Question: Locators are: 1 -High powered NDBs used for en route and airway navigation. 2- Low powered NDBs used for airfield or runway approach. 3- Beacons with a usual range of 10 to 250NM. 4- Beacons with a usual range of 10 to 25NM.

1. 2, 4 ✓
2. 1, 4
3. 1, 3
4. 2, 3

Question 258 of 263

Number: 6048

Question: An NDB is:

1. Non-directional back course ILS.
2. Non-directional line locator.
3. Sophisticated DME device.
4. Non-directional radio beacon. ✓

Question 259 of 263

Number: 6050

Question: ICAO specifications are that range errors indicated by Distance Measuring Equipment (DME), older than 01.01.1989, should not exceed:

1. + or - 0.25NM plus 3% of the distance measured.
2. + or - 1.25NM plus 0.25% of the distance measured.
3. + or - 0.25NM plus 1.25% of the distance measured. ✓
4. + or - 0.5NM or 3% of the distance measured.

Question 260 of 263

Number: 6051

Question: The ILS glide path is normally intercepted between:

1. 5 and 10NM
2. 3 and 7NM
3. 3 and 10NM ✓
4. 4 and 8NM

Question 261 of 263

Number: 6052

Question: What is measured in depth between the 90 Hz modulation adn the 150 Hz modulation:

1. The difference in depth between the 90 Hz modulation and the 150 Hz modulation. ✓
2. The bearing to the localiser antenna found by means of a loop aerial.
3. The difference in time between the 90 Hz modulation and the 150 Hz modulation.
4. The difference in phase between the 90 Hz modulation and the 150 Hz modulation.

Question 262 of 263

Number: 6053

Question: Category II operation is:

1. A precision instrument approach and landing, with a decision height not lower than 200ft , a visibility not less than 800m or an RVR not less than 550m.
2. A precision instrument approach and landing, with either a DH lower than 100ft, or with no DH and an RVR not less than 200m.
3. A runway intended for the operation of class II type aircraft.
4. A precision instrument approach and landing, with a DH lower than 200ft but not lower than 100ft, and an RVR not less than 350m. ✓

Question 263 of 263

Number: 6059

Question: The altimeter is fed by:

1. static pressure. ✓
2. dynamic pressure.
3. differential pressure.
4. total pressure.

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05- AREA NAVIGATION SYSTEMS

Question 1 of 97

Number: 4752

Question: Which component of the B737-400 Flight Management System (FMS) is used to enter flight plan routeing and performance parameters?

1. Flight Director System
2. Inertial Reference System
3. Flight Management Computer
4. Multi-Function Control Display Unit ✓

Question 2 of 97

Number: 16837

Question: The navigational function of the horizontal situation indicator (HSI) in relation to area navigation systems is

1. the indication of the wind component.
2. the indication of the RNP.
3. the indication of the cross track distance (XTK). ✓
4. the indication of the track angle error (TKE).

Question 3 of 97

Number: 16834

Question: A 3-dimensional RNAV system has capability in:

1. the horizontal plane and a speed management system.
2. the horizontal plane and a cruise management system.
3. the horizontal plane and in the vertical plane. ✓
4. the horizontal plane, in the vertical plane and a timing function.

Question 4 of 97

Number: 16790

Question: What is true about the FMC databases:

1. the data includes SIDs, STARS and runway approaches.
2. the navigation database contains the company's cost index strategy.
3. the performance database contains aeronautical information for the planned area of operations of the aircraft.
4. the data can not be customized for the specific airline operations.

Question 5 of 97

Number: 16254

Question: By which of the following flight deck equipment are the waypoints inserted into an FMS RNAV-system by the pilot?

1. Control Display Unit
2. Course deviation indicator
3. Navigation display
4. Symbol generator

Question 6 of 97

Number: 16301

Question: Which of the following statements regarding B-RNAV is correct?

1. B-RNAV is only applicable when flying in TMA's.
2. B-RNAV can be used up to FL95. Above FL95 P-RNAV is required.
3. In case of B-RNAV, RNP1 is required.
4. For 95% of the flight time, the track keeping accuracy must not exceed 5 NM.

Question 7 of 97

Number: 16302

Question: Which statement about RNAV-routes is correct?

1. RNAV-routes are only used in terminal areas in order to make more efficient use of the approach and landing facilities of an airport
2. All waypoints of RNAV-routes are called phantom stations
3. A method of navigation which permots aircraft operation on any desired flight path.
4. In general RNAV-routes coincide with standard routes in order to make optimum use of the available VOR/DME-stations

Question 8 of 97

Number: 16632

Question: One of the benefits of RNAV is:

1. RNAV allows to obtain ATC clairance by HF radio without the requirement to establish any radio contact.
2. RNAV allows pilots to manage horizontal and vertical separation with other aircrafts without obtaining any ATC clearance.
3. RNAV allows to fly at RNAV flight level with a 500 ft separation.

4. RNAV allows aircraft to take a more direct flight path without requiring to fly over ground based facilities. ✓

Question 9 of 97

Number: 16601

Question: Which component of an Area Navigation System displays the Cross Track Distance?

1. DME Indicator.
2. Attitude display.
3. Radio Magnetic Indicator.s
4. Navigation display. ✓

Question 10 of 97

Number: 16543

Question: Concerning FMC databases:

1. company database and FMC databases can not be used at the same time.
2. only the performance database may be customized by the company.
3. the navigation database may be customized for the specific airline operations. ✓
4. only the navigation database may be customized by the company's cost index strategy.

Question 11 of 97

Number: 16401

Question: The IRS is a self-contained system because

1. the calculation of the position does not require any software.
2. it operates off its own power supply
3. it operates independently of navigational aids outside the aircraft. ✓
4. the system generates a warning in case of a failure.

Question 12 of 97

Number: 16535

Question: Which of the following data can be found in the navigation database? 1: SIDs and STARs 2: radio aids 3: optimum flight level 4: company routes 5: cruise speeds

1. Only 2, 3 and 4.s
2. 1, 2 , 3, 4 and 5.
3. Only 1, 2 and 4. ✓
4. Only 2, 3 and 5.

Question 13 of 97

Number: 16524

Question: On modern passenger aircraft, the navigation data base usually contains:

1. obstacle altitudes.
2. ATC frequencies.
3. aircraft performance data.
4. airport reference data. ✓

Question 14 of 97

Number: 2491

Question: In order to enter a phantom waypoint that is designated by a VOR/DME simple RNAV system, the VOR/DME

1. must be in range
2. does not have to be in range when entered but must be when used ✓
3. has to be positively identified by one of the pilots
4. does not have to be in range when entered or used

Question 15 of 97

Number: 2772

Question: Which of the following combinations is likely to result in the most accurate Area Navigation (RNAV) fixes?

1. DME/DME ✓
2. VOR/VOR
3. VOR/DME
4. NDB/VOR

Question 16 of 97

Number: 2905

Question: Which of the following gives the best information about the progress of a flight between 2 en-route waypoints from a RNAV equipment?

1. Elapsed time on route.
2. ATA
3. ETD
4. ETO ✓

Question 17 of 97

Number: 10112

Question: Under which of the following circumstances does a VOR/DME Area Navigation system switch to Dead Reckoning mode?

1. The system is receiving information from one VOR and two DMEs
2. The system is receiving information from the two DMEs
3. The system is receiving information from only one VOR ✓
4. The system is receiving information from one VOR and one DME

Question 18 of 97

Number: 10113

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to cruising speeds is stored in the:

1. auto flight computers
2. air data computer
3. Performance database ✓
4. navigation database

Question 19 of 97

Number: 5921

Question: Which one of the following inputs to an Area Navigation System (R-NAV) comes from an external, not on-board, system?

1. Pressure altitude
2. VOR/DME radial/distance 
3. Inertial Navigation System (INS) position
4. Magnetic heading

Question 20 of 97

Number: 5923

Question: In relation to Area Navigation Systems (RNAV), which of the following is an Air Data input?

1. VOR/DME radial/distance
2. True airspeed 
3. Doppler drift
4. Inertial Navigation System (INS) position

Question 21 of 97

Number: 10014

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to aircraft flight envelope computations is stored in the:

1. auto flight computers
2. air data computer
3. navigation database
4. performance database 

Question 22 of 97

Number: 10015

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to V1, VR and V2 speeds is stored in the:

1. navigation database
2. auto flight computer
3. air data computer
4. performance database 

Question 23 of 97

Number: 10016

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to flight plans is stored in the:

1. auto flight database
2. performance database
3. air data database
4. navigation database 

Question 24 of 97

Number: 10017

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to STARs and SIDs is stored in the:

1. air data computer
2. navigation database ✓
3. auto flight computers
4. performance database

Question 25 of 97

Number: 12874

Question: How does a VOR/DME Area Navigation system selects the DME-stations to be used for positioning?

1. The VOR/DME Area Navigation System has its own VHF NAV tuner and it always tunes the DME stations closest to the aircraft position.
2. The VOR/DME Area Navigation system uses whatever stations are tuned on the aircraft's normal VHF NAV selector.
3. the pilot tunes the closest VOR/DME stations within range on the VOR/DME Area navigation control panel.
4. The VOR/DME Area Navigation system has its own NAV tuner and the system itself tunes the DME stations providing the most accurate position. ✓

Question 26 of 97

Number: 12878

Question: Apart from radials and distances from VOR/DME stations, what information is required by the VOR/DME Area Navigation computer in order to calculate the wind?

1. Vertical speed from the air data computer
2. Heading from the aircraft compass system
3. Heading from the aircraft compass system and true airspeed from the air data computer ✓
4. True airspeed from the air data computer

Question 27 of 97

Number: 12890

Question: The Flight Management System (FMS) is organised in such a way that:

1. the navigation database is read only to the pilot. ✓
2. the pilot is able to modify the navigation database in the FMC between two updates.
3. the navigation datbase of the FMC is created by the pilot.
4. the navigation database of the FMC is valid for one year.

Question 28 of 97

Number: 12892

Question: Precision RNAV (P-RNAV) requires a track-keeping accuracy of:

1. ± 5.0nm for 95% of the flight time.
2. ± 10.0nm for 95% of the flight time.
3. ± 8.0nm for 95% of the flight time.
4. ± 1.0nm for 95% of the flight time. ✓

Question 29 of 97

Number: 12894

Question: On what data is a VOR/DME Area Navigation system operating in the dead reckoning mode?

1. Radial from one VOR; distances from two DMEs.
2. TAS from the Air Data Computer; heading from the aircraft compass; the last computed W/V.

3. Radial from one VOR; distances from two DMEs; TAS from the Air Data computer; heading from the aircraft compass.
4. TAS from the Air Data Computer; heading from the aircraft compass.

Question 30 of 97

Number: 12897

Question: In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to waypoints is stored in the:

1. auto flight computers
2. air data computer
3. navigation database 
4. performance database

Question 31 of 97

Number: 12767

Question: Under which of the following circumstances does a VOR/DME Area Navigation system switch to Dead Reckoning mode?

1. When 'DR' is selected by the pilot.
2. VOR/DME Area Navigation computer is receiving neither radial nor distance data information from VOR/DME stations. 
3. VOR/DME Area Navigation computer is not receiving information from the aircraft compass system.
4. VOR/DME Area Navigation computer is not receiving information from the Air Data Computer.

Question 32 of 97

Number: 12678

Question: Which of the following lists all the stages of flight when it is possible to change the route in the active flight plan on an FMS equipped aircraft?

1. Only before take-off
2. Only once the aircraft is airborne.
3. At any time before take-off and throughout the flight 
4. Only before the flight plan is activated

Question 33 of 97

Number: 13326

Question: A FMS with only a multiple DME sensor operating shall have a position error, 95% probability, in a non precision approach equal or less than:

1. 0.3 Nm. 
2. 0.06 Nm.
3. 0.5 Nm.
4. 1 Nm.

Question 34 of 97

Number: 15953

Question: Area Navigation is a method of navigation that permits aircraft operation on any desired flight path within the limits of the capability of self contained systems. Which of the following systems is such a self contained system?

1. VOR/DME-system
2. DME/DME-system
3. Global Positioning System
4. Inertial Reference System ✓

Question 35 of 97

Number: 15954

Question: Output from which of the following combination of navigational sources provide enough information to the RNAV-equipment to calculate the wind vector?

1. Global Positioning System and Compass System
2. Inertial Reference System and Air Data Computer ✓
3. Compass system and Inertial Reference System
4. Inertial Reference System and Global Positioning System

Question 36 of 97

Number: 15837

Question: What is cross track distance (XTK-distance) in an Area Navigation System?

1. Distance between actual position and next waypoint.
2. Distance between air position and great circle track between active waypoints.
3. Distance between actual position and great circle track between active waypoints. ✓
4. Distance between air position and planned track.

Question 37 of 97

Number: 15555

Question: A phantom station (as used in a 2D RNAV-system) is

1. An existing VOR/DME-station created in the memory of the Navigation Computer Unit of the RNAV-system.
2. A waypoint defined by two DME-distances from two different VOR/DME-stations.
3. A waypoint defined by a radial and a DME-distance from a VOR/DME-station. ✓
4. A non-existing VOR/DME-station defined by two DME distances.s

Question 38 of 97

Number: 15595

Question: Which of the following Nav Aids will provide an RNAV system with position?

1. VDF
2. NDB.
3. VOR/DME. ✓
4. ADF

Question 39 of 97

Number: 15641

Question: On a modern commercial aircraft, the FMS provides:

1. a 3D area navigation and an air/ground datalink.
2. an air/ground datalink.
3. traffic alert information
4. lateral and vertical navigation, , and guidance and performance management. ✓

Question 40 of 97

Number: 4709

Question: ICAO Annex 11 defines Area Navigation (RNAV) as a method of navigation which permits aircraft operation on any desired flight path:

1. within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these ✓
2. outside the coverage of station-referenced navigation aids provided that it is equipped with a minimum of two serviceable self-contained navigation aids
3. outside the coverage of station-referenced navigation aids provided that it is equipped with a minimum of one serviceable self-contained navigation aid
4. within the coverage of station-referenced navigation aids provided that it is equipped with a minimum of one serviceable self-contained navigation aid

Question 41 of 97

Number: 4710

Question: Precision RNAV (P-RNAV) requires a track-keeping accuracy of:

1. 0.25NM standard deviation or better.
2. 0.5NM standard deviation or better.
3. 1.5NM standard deviation or better.
4. 1.0NM standard deviation or better. ✓

Question 42 of 97

Number: 4711

Question: Basic RNAV requires a track-keeping accuracy of:

1. +/- 5NM or better throughout the flight
2. +/- 3NM or better for 90% of the flight time
3. +/- 5NM or better for 95% of the flight time ✓
4. +/- 2NM or better for 75% of the flight time

Question 43 of 97

Number: 4713

Question: The Flight Management Computer (FMC) position is:

1. the same as that given on the No. 1 IRS
2. another source of aircraft position; it is independent of other navigation sources (IRS, Radio, ILS, etc)
3. the computed position based on a number of sources (IRS, Radio, ILS, GPS etc) ✓
4. the actual position of the aircraft at any point in time

Question 44 of 97

Number: 4715

Question: The track-line on the Electronic Horizontal Situation Indicator (EHSI) or Navigation Display of an Electronic Flight Instrument System:

1. corresponds to the calculated IRS TH and is correct during turns
2. indicates that the pilot has made a manual track selection
3. represents the track of the aircraft over the ground. When it co-incides with the desired track, wind influence is compensated for ✓
4. indicates to the pilot that a manually selected heading is being flown

Question 45 of 97

Number: 4716

Question: An electromagnetic wave consists of an oscillating electric field E and an oscillating magnetic field H. Their propagation speed is:

1. the speed of sound for field E and the speed of light for field H.
2. the speed of light. ✓
3. the speed of light for field E and the speed of sound for field H.
4. the speed of sound.

Question 46 of 97

Number: 4717

Question: Under JAR-25 colour code rules, features displayed in red on an Electronic Flight Instrument System (EFIS), indicate:

1. flight envelope and system limits; engaged modes
2. warnings; flight envelope and system limits ✓
3. cautions and abnormal sources; engaged modes
4. warnings; cautions and abnormal sources

Question 47 of 97

Number: 4718

Question: Under JAR-25 colour code rules, features displayed in amber/yellow on an Electronic Flight Instrument System (EFIS), indicate:

1. cautions, abnormal sources ✓
2. engaged modes
3. warnings
4. flight envelope and system limits

Question 48 of 97

Number: 4719

Question: Under JAR-25 general colour code rules, features displayed in green on an Electronic Flight Information System should indicate:

1. the ILS deviation pointer
2. engaged modes ✓
3. the earth
4. cautions, abnormal sources

Question 49 of 97

Number: 4720

Question: Under JAR-25 colour code rules features displayed in cyan/blue, on an Electronic Flight Instrument Systems (EFIS), indicate:

1. flight envelope and system limits
2. the flight director bar(s)
3. the sky ✓
4. engaged modes

Question 50 of 97

Number: 4721

Question: Diffraction is the process by which:

1. a direct wave is bent around the form of the earth.
2. a ground wave is attenuated over rough ground.
3. radio waves travel over and around obstacles. ✓
4. a space wave penetrates the ionosphere.

Question 51 of 97

Number: 4725

Question: An electromagnetic wave consists of an oscillating electric field (E) and an oscillating magnetic field (H). Which statement is correct?

1. a diple antenna can only transmit field (H)
2. when AC current passes through the antenna, fields E and H are parallel.
3. the E and H fields are perpendicular to each other. ✓
4. the H field is parallel to the wire and the field E is perpendicular to the wire.

Question 52 of 97

Number: 4726

Question: Under JAR-25 colour code rules for Electronic Flight Instrument Systems (EFIS), increasing intensity of precipitation are coloured in the order:

1. amber/yellow, magenta, black
2. black, amber/yellow, magenta, red
3. green, amber/yellow, red, magenta ✓
4. green, red, magenta, black

Question 53 of 97

Number: 4748

Question: In an Electronic Flight Instrument System (EFIS) data relating primarily to navigation in the FMC is provided by:

1. GPS, Aircraft Weather Radar, Navigation radios
2. Inertial Reference Systems, Aircraft Weather Radar, Navigation radios
3. Inertial Reference Systems, Navigation radios, Terrain Collision Alerting System
4. Navigation radios, GPS, Inertial Reference Systems ✓

Question 54 of 97

Number: 4749

Question: How does the Electronic Flight Instrument System display of a B737-400 respond to the failure of a VHF navigation (VOR) receiver?

1. The pointer rotates around the display and a VOR 1 or 2 failure warning bar appears
2. The pointer flashes and a VOR 1 or 2 failure warning bar appears
3. The deviation bar and/or pointer change colour to red and flash intermittently
4. It removes the associated magenta deviation bar and/or pointer from the display ✓

Question 55 of 97

Number: 4750

Question: Which component of the B737-400 Electronic Flight Instrument System generates the visual displays on the EADI and EHSI?

1. Symbol Generator ✓
2. Navigation database
3. Flight Management Computer
4. Flight Control Computer

Question 56 of 97

Number: 4415

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in Expanded (EXP) VOR/ILS mode with an ILS frequency selected?

1. Figure 3
2. Figure 4
3. Figure 2
4. Figure 1 ✓

Question 57 of 97

Number: 4416

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in Expanded (EXP) VOR/ILS mode with a VOR frequency selected?

1. Figure 4 ✓
2. Figure 2
3. Figure 3
4. Figure 1

Question 58 of 97

Number: 4417

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in FULL VOR/ILS mode with an VOR frequency selected?

1. Figure 1 ✓
2. Figure 6
3. Figure 4
4. Figure 5

Question 59 of 97

Number: 4418

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in PLAN mode?

1. Figure 4

2. Figure 1
3. Figure 2 ✓
4. Figure 3

Question 60 of 97

Number: 4419

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in MAP mode?

1. Figure 2
2. Figure 4
3. Figure 3 ✓
4. Figure 1

Question 61 of 97

Number: 4420

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in Expanded (EXP) VOR/ILS mode with an VOR frequency selected?

1. Figure 1
2. Figure 6
3. Figure 5
4. Figure 4 ✓

Question 62 of 97

Number: 4421

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in Expanded (EXP) VOR/ILS mode with an ILS frequency selected?

1. Figure 6
2. Figure 2
3. Figure 5 ✓
4. Figure 3

Question 63 of 97

Number: 4422

Question: Which of the figures depicts an Electronic Flight Instrument System (EFIS) display in FULL VOR/ILS mode with an ILS frequency selected?

1. Figure 2
2. Figure 6 ✓
3. Figure 5
4. Figure 3

Question 64 of 97

Number: 4423

Question: What drift is being experienced?

1. 8° Left
2. 20° Right
3. 12° Right
4. 20° Left

Question 65 of 97

Number: 4424

Question: What is the value of the track from TBX to YTB?

1. 280°(T)
2. 140°(M)
3. 097°(T)
4. 170°(M)

Question 66 of 97

Number: 4425

Question: What wind velocity is indicated?

1. 030°(M)/20KT
2. 255°(M)/20KT
3. 285°(M)/20KT
4. 105°(M)/20KT

Question 67 of 97

Number: 4426

Question: What is the value of the selected course?

1. 280°(M)
2. 272°(M)
3. 260°(M)
4. 299°(M)

Question 68 of 97

Number: 4427

Question: What is the instantaneous aircraft track?

1. 280°(M)
2. 300°(M)
3. 272°(M)
4. 260°(M)

Question 69 of 97

Number: 4428

Question: At Reference. The letters QTX and adjacent symbol indicate a:

1. VORTAC
2. VOR
3. Airport

4. TACAN

Question 70 of 97

Number: 4429

Question: The 'O' followed by the letters 'KABC' indicate:

1. an off-route airport
2. an off-route VOR/DME
3. the destination airport
4. a designated alternate airport

Question 71 of 97

Number: 4430

Question: At reference. What is the manually selected heading?

1. 280°(M)
2. 260°(M)
3. 300°(M)
4. 272°(M)

Question 72 of 97

Number: 4431

Question: The diagram indicates that the aircraft is to the:

1. left of the localizer and above the glidepath
2. right of the localizer and below the glidepath
3. left of the localizer and below the glidepath
4. right of the localizer and above the glidepath

Question 73 of 97

Number: 4432

Question: In which screen modes of an Electronic Horizontal Situation Indicator (EHSI) on a B737-400 will radar returns not be shown?

1. FULL VOR/ILS, EXP VOR/ILS and PLAN
2. EXP VOR/ ILS, PLAN and MAP
3. FULL NAV, PLAN and MAP
4. FULL NAV, FULL VOR/ILS and PLAN

Question 74 of 97

Number: 4931

Question: Which of the distances indicated will be shown on a basic VOR/DME-based Area Navigation Equipment when using a 'Phantom Station' at position 'X'?

1. 11 NM
2. 14 NM
3. 8 NM
4. 9 NM

Question 75 of 97

Number: 4932

Question: Erratic indications may be experienced when flying towards a basic VOR/DME-based Area Navigation System 'Phantom Station':

1. because, under adverse conditions (relative bearing to the Phantom Station other than 180°/360°) it takes the computer more time to calculate the necessary information
2. when operating at low altitudes close to the limit of reception range from the reference station ✓
3. when the Phantom Station is out of range
4. when in the cone of silence overhead the Phantom Station

Question 76 of 97

Number: 4935

Question: Which of the following is one of the functions of the Course-Line-Computer in a basic RNAV system?

1. It checks the ground station accuracy using a built-in test programme
2. It automatically selects the two strongest transmitters for the Area-Nav-Mode and continues working by memory in case one of the two necessary station goes off the air
3. It calculates cross track information for NDB approaches
4. It transfers the information given by a VOR/DME station into tracking and distance indications to any chosen Phantom Station/waypoint ✓

Question 77 of 97

Number: 5756

Question: Which one of the following lists information given by a basic VOR/DME-based Area Navigation System when tracking inbound to a phantom waypoint?

1. True airspeed; drift angle
2. Wind velocity
3. Aircraft position in latitude and longitude
4. Crosstrack distance; Distance to Go ✓

Question 78 of 97

Number: 5757

Question: Which of the following lists information required to input a waypoint or 'Phantom Station' into a basic VOR/DME-based Area Navigation System?

1. Magnetic track and distance to a VOR/DME from the waypoint or 'Phantom Station'
2. Radial and distance from a VOR/DME to the waypoint or 'Phantom Station' ✓
3. Radials from a minimum of two VORs to the waypoint or 'Phantom Station'
4. Magnetic track and distance from the aircraft to the waypoint or 'Phantom Station'

Question 79 of 97

Number: 5758

Question: Which of the distances indicated will be shown on a basic VOR/DME-based Area Navigation Equipment when using a 'Phantom Station'?

1. 21 NM
2. 12 NM ✓
3. 11 NM
4. 10 NM

Question 80 of 97

Number: 14183

Question: What is the cross track deviation (XTK) indicated on an RNAV system?

1. The distance along a track between two waypoints
2. The distance between the air position and the planned track
3. The distance between the air position and the great circle track between two active waypoints.
4. The distance between the actual position and the great circle track between two active waypoints.

Question 81 of 97

Number: 14184

Question: In what piece of FMS equipment will the pilot enter the waypoint information for the route?

1. The Symbol Generator
2. The Primary Flight Display (PFD)
3. The Control Display Unit (CDU)
4. The Navigation Display (ND)

Question 82 of 97

Number: 14186

Question: In a 2D RNAV system you have entered the DME and VOR data for two waypoints. What do you use to work out the cross track errors when en-route from one to the other?

1. The pilot will have to calculate the wind and apply it to the VOR/DME information
2. The pilot takes the VOR and DME information and computes it himself
3. Use the automatically computed values on the CDI/HSI.
4. The pilot is presented with VOR/DME information which must then be correlated to the pressure instruments to determine the effect of altitude

Question 83 of 97

Number: 14188

Question: 3D RNAV fixing gives you:

1. Horizontal and vertical profile guidance
2. 2D RNAV plus time guidance
3. 2D RNAV plus speed control
4. Horizontal, vertical profile and time guidance

Question 84 of 97

Number: 14193

Question: When entering and using a phantom waypoint in area navigation equipment, you:

1. the referenced station must be positively identified by at least 1 pilot
2. you must be in range of the referenced station to enter or use it
3. don"t need to be in range of the referenced station to enter or use it
4. you don"t need to be within range of the referenced station to enter the waypoint, but you must be to use it

Question 85 of 97

Number: 14480

Question: The Flight Management System (FMS) is organised in such a way that the pilot can:

1. modify the database every 14 days
2. modify the data in the database between two updates
3. read and write at any time in the database
4. insert navigation data between two database updates ✓

Question 86 of 97

Number: 14395

Question: A 3-D RNAV system has capability in:

1. a horizontal plane and cruise management system
2. a horizontal plane and the vertical plane ✓
3. a horizontal plane and vertical plane and timing function
4. a horizontal plane and speed management system

Question 87 of 97

Number: 14396

Question: From which of the following combination of navigational sources provide enough information to the RNAV equipment to calculate the wind vector:

1. IRS and GPS
2. Compass system and IRS
3. GPS and Compass output
4. IRS and air data computer ✓

Question 88 of 97

Number: 14221

Question: Which of the following are stored in the navigation database of the Flight Management System (FMS)? 1 - waypoints, 2 – details of radio navigation aids,3 - optimum altitudes, 4 - company routes, 5 - landing reference speeds

1. 1,2,3
2. 1,2,3,4
3. 1,2,4 ✓
4. 2,4,5

Question 89 of 97

Number: 14886

Question: A pilot is flying between two waypoints defined by suitably located VOR/DMEs. Equipped with a simple 2D RNAV system, this pilot:

1. reads VOR/DME bearing and distance on CDI or HSI to compute himself the cross track error.
2. must update any altitude change in RNAV system to have correct cross track error.
3. enters relative position between his aircraft and the VOR/DMEs on CDU to calculate the cross track error.
4. reads cross track error and the distance to go on CDI or HSI. ✓

Question 90 of 97

Number: 14934

Question: The Control and Display Unit (CDU) on an FMS is:

1. used on ground only to monitor the maintenance procedure.
2. the Autopilot control panel.
3. the system used to update the navigation database.
4. used by the crew to input data into FMC. ✓

Question 91 of 97

Number: 14931

Question: IRS is a self-contained system because

1. the system has the ability to calculate the aircraft's position with an accuracy comparable to the GPS-position.
2. the system calculates the position of the aircraft without reference to externally generated (man-made) signals. ✓
3. the system has a battery back-up which guarantees the well-functioning of the system in case of power-failure.s
4. the system has the ability to calculate the aircraft's radio position without any reference to either man-made or natural information.

Question 92 of 97

Number: 15097

Question: The FMS navigation data base usually contains: 1. airport reference data. 2. ATC frequencies. 3. Company routes. 4. Nav. Aid. frequencies. The combination regrouping all the correct statements is:

1. 1, 2 and 3.
2. 1, 3 and 4. ✓
3. 1, 2, 3 and 4.
4. 1 and 3.

Question 93 of 97

Number: 15098

Question: The inputs of information used to achieve the RNAV required accuracy may be: 1. NDB 2. IRS 3. VOR/DME 4. G.N.S.S. The combination regrouping all the correct statements is:

1. 1, 2, 3 and 4.
2. 2, 3 and 4. ✓
3. 2 and 4.
4. 1, 2 and 3.

Question 94 of 97

Number: 15154

Question: Benefits of Area Navigation include: 1. Shorter flight distance 2. Reduction in fuel and flight time. 3. No radio contact within RNAV airspace. 4. Reduction in the number of ground training facilities 5. Pilot choice of vertical and horizontal separations. The combination regrouping all the correct statements is:

1. 3, 4, and 5.
2. 1, 2, 4 and 5.
3. 1, 2 and 4. ✓
4. 2, 4, and 5.

Question 95 of 97

Number: 15037
Question: A 2-dimensional RNAV system has a capability in the:
1. timing function.
2. horizontal and vertical planes.
3. vertical plane.
4. horizontal plane. ✓

Question 96 of 97
Number: 15049
Question: Kalman filtering is used within:
1. DME receiver.
2. Electronic Flight Instrument System (EFIS).
3. Navigation computer. ✓
4. VOR receiver.

Question 97 of 97
Number: 15050
Question: A fix obtained by rho-rho navigation is based on information from two:
1. VDFs
2. VORs s
3. DMEs ✓
4. NDBs

06-GLOBAL NAVIGATIONS

Question 1 of 109
Number: 16448
Question: EGNOS (European Geostationary Navigation Overlay System) is a form of:
1. Wide Area Differential GPS (WADGPS) ✓
2. Local Area Differential GPS (LADGPS)
3. stand-alone Global Navigation Satellite System (GNSS)
4. Local Area Augmentation System (LAAS)

✗

✗ Flag this question

Question 2 of 109
Number: 16391
Question: What is the function of the control segment in GPS NAVSTAR?
1. It calculates the aircraft position.
2. To transmit a signal used by a suitable receiver to calculate position.
3. To ensure the transmitted data of the satellites is controlled and updated from time to time by ground stations. ✓
4. To monitor and ensure that the transmitted signals are saved and processed to utilise WAAS.

✗

Flag this question

Question 3 of 109

Number: 2647

Question: Which of the following frequency-bands is used by the Loran C navigation system?

1. 1750 - 1950 kHz
2. 978 - 1213 MHz
3. 90 - 110 kHz
4. 10.2 - 13.6 kHz

Flag this question

Question 4 of 109

Number: 2648

Question: GPS satellites transmit on two L-band frequencies with different types of signals. Which of these are generally available for use by civil aviation?

1. L2-coarse acquisition (C/A)
2. L2-for communications purpose
3. L1-coarse acquisition (C/A) with selected availability (S/A)
4. L1-precise (P)

Flag this question

Question 5 of 109

Number: 2649

Question: Which of the following coordinate systems is used by the NAVSTAR/GPS receiver to calculate position (latitude, longitude and altitude)?

1. PZ 90
2. ED 87
3. ED 50
4. WGS 84

Flag this question

Question 6 of 109

Number: 2650

Question: Which of the following lists all the parameters that can be determined by a GPS receiver tracking signals from 4 different satellites?

1. Latitude, longitude and altitude
2. Latitude, longitude and time
3. Latitude and longitude
4. Latitude, longitude, altitude and time

Flag this question

Question 7 of 109

Number: 2495

Question: What is the minimum number of satellites required by a GPS in order to obtain a three dimensional fix?

1. 5
2. 6
3. 3
4. 4

Flag this question

Question 8 of 109

Number: 2496

Question: In which navigation system does the master station transmit a continuous string of pulses on a frequency close to 100 kHz?

1. Loran C
2. Doppler
3. Decca
4. GPS

Flag this question

Question 9 of 109

Number: 2759

Question: Which of the following statements concerning LORAN-C is correct?

1. It is a navigation system based on secondary radar principles; position lines are obtained in sequence from up to eight ground stations
2. It is a navigation system based on simultaneous ranges being received from a minimum of four ground stations
3. It is a hyperbolic navigation system that works on the principle of range measurement by phase comparison
4. It is a hyperbolic navigation system that works on the principle of differential range by pulse technique

Flag this question

Question 10 of 109

Number: 2760

Question: In a Satellite-Assisted Navigation system (GNSS/GPS) a position line is obtained by:

1. the aircraft's receiver measuring the phase angle of the signal received from a satellite in a known position
2. the aircraft's receiver measuring the time difference between signals received from a minimum number of satellites
3. timing the period that is taken for a satellite's transmission to reach the aircraft's receiver

4. timing the period that is taken for a transmission from the aircraft's transmitter/receiver to reach and return from a satellite in a known position

Flag this question

Question 11 of 109

Number: 2761

Question: In which frequency band do Satellite-Assisted Navigation systems (GNSS/GPS) provide position information that is available to civil aircraft?

1. UHF
2. EHF
3. VHF
4. SHF

Flag this question

Question 12 of 109

Number: 2765

Question: What is the minimum number of satellites required for the NAVSTAR/GPS to carry out two dimensional operation?

1. 3
2. 2
3. 4
4. 5

Flag this question

Question 13 of 109

Number: 2775

Question: Which of the following correctly gives the principle of operation of the Loran C navigation system?

1. Frequency shift between synchronised transmissions
2. Phase comparison between synchronised transmissions
3. Differential range by pulse technique
4. Differential range by phase comparison

Flag this question

Question 14 of 109

Number: 2906

Question: The Doppler Navigation System is based on:

1. radio waves refraction in the ionosphere
2. doppler VOR (DVOR) Navigation System
3. phase comparison from ground station transmissions
4. radar principles using frequency shift

Flag this question

Question 15 of 109

Number: 10114

Question: What is the inclination to the equatorial plane of the satellite's orbit in the NAVSTAR GPS constellation?

1. 45°
2. 65°
3. 35°
4. 55°

Flag this question

Question 16 of 109

Number: 5928

Question: The "GBAS" positioning service provides:

1. horizontal position information for Initial segment.
2. horizontal position information to support RNAV operations in terminal areas.
3. deviation guidance for Final Approach segment.
4. deviation guidance for En-route segment.

Flag this question

Question 17 of 109

Number: 10012

Question: A Ground-Based Augmentation System (GBAS) supports all phases of approach, landing, departure and surface operations within an area of coverage of approximately:

1. 30km
2. 60km
3. 10km
4. 100km

Flag this question

Question 18 of 109

Number: 12870

Question: How many satellites form the nominal NAVSTAR GPS constellation?

1. 12
2. 36
3. 6
4. 24

Flag this question

Question 19 of 109

Number: 12871

Question: How many clocks are installed in each NAVSTAR GPS satellite?

1. 4
2. 1
3. 2
4. 3

Flag this question

Question 20 of 109

Number: 12872

Question: GPS satellites transmit on two L-band frequencies with different types of signals. Which of these are generally available for use by civil aviation?

1. L2-coarse acquisition (C/A)
2. L2-precise (P)
3. L1-precise (P)
4. L1-coarse acquisition

Flag this question

Question 21 of 109

Number: 12896

Question: In what type of nominal orbit are NAVSTAR GPS satellites placed?

1. Geo-stationary
2. Circular
3. Pole to pole
4. Elliptical

Flag this question

Question 22 of 109

Number: 12676

Question: Which of the following statements about the accuracy that can be obtained with the LAAS (local area augmentation system) of the satellite navigation system of the satellite navigation system NAVSTAR/GPS is correct?

1. The increase in accuracy of position fixes is independent of the aircraft position in relation to the LAAS ground reference station.
2. A LAAS cannot correct for satellite timing and orbital position error.
3. A LAAS corrects the position of the aircraft by relaying the information via a geo-stationary satellite.
4. The closer the receiver is to a LAAS ground reference station, the more accurate is the aircraft position fix.

Flag this question

Question 23 of 109

Number: 12684

Question: Which one of the following is an advantages of a multi-sensor system using inputs from a global navigation satellite system (GNSS) and an inertial reference system (IRS)?

1. The FMS always uses average position calculated from the GNSS and the IRS.
2. The GNSS can be used to update the FMS position from a drifting IRS. ✓
3. The GNNS is never used as an input in a multi-sensor system.
4. The activation of 'Selective Availability' can be recognised by the INS.

✗

✗ Flag this question

Question 24 of 109

Number: 12686

Question: What type of clock is used in NAVSTAR GPS satellites?

1. Mechanical
2. Atomic ✓
3. Laser
4. Quartz

✗

✗ Flag this question

Question 25 of 109

Number: 15508

Question: What is the maximum latitude of a GPS-satellite ground track?

1. 67.5° N/S
2. 35° N/S
3. 55° N/S ✓
4. 90° N/S

✗

✗ Flag this question

Question 26 of 109

Number: 1497

Question: The system capable to measure on ground the signal errors transmitted by GNSS satellites and relay the measured errors to the user for correction is?

1. SBAS
2. TBAS
3. ABAS
4. GBAS ✓

✗

✗ Flag this question

Question 27 of 109

Number: 1518

Question: An apparent increase in the transmitted frequency which is proportional to the transmitter velocity will occur when:

1. the transmitter moves away from the receiver
2. the receiver moves towards the transmitter
3. both transmitter and receiver move towards each other
4. the transmitter moves towards the receiver ✓

✗

✗ Flag this question

Question 28 of 109

Number: 2214

Question: In a Satellite-Assisted Navigation System (GNSS/GPS), a fix is obtained by:

1. measuring the pulse lengths of signals received from a minimum number of satellites received in a specific sequential order
2. measuring the time taken for an aircraft's transmissions to travel to a number of satellites, in known positions, and return to the aircraft's receiver
3. the aircraft's receiver measuring the phase angle of signals received from a number of satellites in known positions
4. measuring the time taken for a minimum number of satellites' transmissions, in known positions, to reach the aircraft's receiver ✓

✗

✗ Flag this question

Question 29 of 109

Number: 3242

Question: The system capable of measuring on the ground, the signal errors transmitted by GNSS satellites and transmitting differential corrections and integrity messages for navigation satellites is:

1. ABAS
2. SBAS ✓
3. RBAS
4. GBAS

✗

✗ Flag this question

Question 30 of 109

Number: 3245

Question: Which of the following lists are all errors that affect the accuracy and reliability of the Satellite-Assisted Navigation system (GNSS/GPS)?

1. Satellite mutual interference; frequency drift; satellite to ground time lag
2. Satellite mutual interference; satellite ephemeris; atmospheric propagation
3. Satellite to ground time lag; atmospheric propagation; satellite clock
4. Satellite clock; satellite ephemeris; atmospheric propagation ✓

✗

✗ Flag this question

Question 31 of 109

Number: 3251

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

1. the transmitter moves toward the receiver
2. there is no relative movement between the transmitter and the receiver
3. the transmitter moves away from the receiver ✓
4. the transmitter and receiver move towards each other

✗

✗ Flag this question

Question 32 of 109

Number: 3252

Question: In order to carry out an Independent three-dimensional fix, Receiver Autonomous Integrity Monitoring (RAIM) and failure detection and exclusion of any faulty satellite, signal reception is required from a minimum number of how many satellites?

1. 5
2. 7
3. 6 ✓
4. 4

✗

✗ Flag this question

Question 33 of 109

Number: 3255

Question: Signal reception is required from a minimum number of satellites that have adequate elevation and suitable geometry in order for a Satellite-Assisted Navigation System (GPS) to carry out independent three dimensional operation without the Receiver Autonomous Integrity Monitoring (RAIM) function. The number of satellites is:

1. 3
2. 4 ✓
3. 6
4. 5

✗

✗ Flag this question

Question 34 of 109

Number: 4829

Question: The distance between a NAVSTAR/GPS satellite and receiver is:

1. determined by the phase shift of the Pseudo Random Noise code multiplied by the speed of light
2. calculated, using the WGS-84 reference system, from the known positions of the satellite and the receiver
3. calculated from the Doppler shift of the known frequencies
4. determined by the time taken for the signal to arrive from the satellite multiplied by the speed of light ✓

Flag this question

Question 35 of 109

Number: 4830

Question: In relation to primary radar, what does the term Pulse Recurrence Frequency signify?

1. The number of revolutions performed by the radar antenna per minute.
2. The radar frequency used.
3. The time between each transmission of pulses.
4. The number of pulses transmitted per second.

Flag this question

Question 36 of 109

Number: 4831

Question: The reason why the measured distance between a NAVSTAR/GPS satellite navigation system satellite and a receiver is called a 'Pseudo-Range' is because the:

1. calculated range is based on an idealised Keplerian orbit
2. calculated range includes receiver clock error
3. movement of satellite and receiver during the distance calculation is not taken into account
4. measured distance is based on the Pseudo Random Noise code

Flag this question

Question 37 of 109

Number: 4832

Question: What type of satellite navigation system NAVSTAR/GPS receiver is most suitable for use on board an aircraft?

1. Sequential
2. Any hand held type
3. Multichannel
4. Multiplex

Flag this question

Question 38 of 109

Number: 4833

Question: What is the minimum number of NAVSTAR/GPS satellites required to produce an accurate independent 3-D position fix?

1. 3
2. 24
3. 4
4. 5

Flag this question

Question 39 of 109

Number: 4834

Question: The receiver aerial for a NAVSTAR/GPS system should be mounted:

1. in the vicinity of the receiver to avoid long transmission lines
2. inside the tail fin to minimise the influence of reflections from the wing and fuselage
3. under the fuselage in order to receive correction data transmitted by D-GPS stations
4. on the upper side of the fuselage in the vicinity of the centre of gravity ✓

Flag this question

Question 40 of 109

Number: 4835

Question: In the NAVSTAR/GPS satellite navigation system, 'Selective Availability' (SA) is the artificial degradation of the navigation accuracy by:

1. offsetting satellite atomic clocks by a predetermined constant amount
2. shutting off selected satellites
3. using a less accurate atomic clock in a satellite for signal processing
4. dithering the satellite clock ✓

Flag this question

Question 41 of 109

Number: 4836

Question: In the event of the re-use of Selective Availability, how does this affect, if at all, the navigation accuracy of the NAVSTAR/GPS satellite navigation system ?

1. It degrades accuracy by reducing the number of available satellites
2. It has no influence because, by selecting of the most suitable signals, the computing process in the receiver is quicker
3. It degrades position accuracy by manipulating satellite signals ✓
4. It increases because only signals from satellites in the most suitable geometric constellation are selected by the receiver

Flag this question

Question 42 of 109

Number: 4837

Question: In the NAVSTAR/GPS satellite navigation system, receiver clock error:

1. is corrected by using signals from four satellites ✓
2. is the biggest part of the total error; it cannot be corrected
3. is negligible small because of the great accuracy the atomic clocks installed in the satellites
4. can be minimised by synchronisation of the receiver clock with the satellite clocks

Flag this question

Question 43 of 109

Number: 4838

Question: The influence of the ionosphere on the accuracy of the satellite navigation system NAVSTAR/GPS is:

1. only significant if the satellites are located at a small elevation angle above the horizon
2. negligible
3. minimised by the receiver using a model of the atmosphere and comparing signals transmitted by the satellites ✓
4. minimised by computing the average of all signals

✗

✗ Flag this question

Question 44 of 109

Number: 4839

Question: Which one of the following is an advantages of a multi-sensor system using inputs from a global navigation satellite system (GNSS) and an inertial reference system (INS)?

1. The activation of 'Selective Availability' can be recognised by the INS
2. The GNSS can be used to update a drifting INS ✓
3. The only advantage of coupling both systems is double redundancy
4. The average position calculated from data provided by both systems increases overall accuracy

✗

✗ Flag this question

Question 45 of 109

Number: 4840

Question: What are the effects, if any, of shadowing by parts of the aircraft (e.g. wing) on the reception of signals from NAVSTAR/GPS satellites?

1. It has no influence because high frequency signals are unaffected
2. The signals will be distorted, however the error can be corrected for using an algorithm and information from unaffected signals
3. It may prevent the reception of signals ✓
4. It causes multipath propagation

✗

✗ Flag this question

Question 46 of 109

Number: 4841

Question: Which of the following geometric satellite constellations provides the most accurate NAVSTAR/GPS position fix?

1. 4 satellites with an azimuth of 90° from each other and a low elevation above the horizon
2. 4 satellites with an azimuth of 90° from each other and an elevation of 45° above the horizon
3. 3 satellites with a low elevation above the horizon and an azimuth of 120° from each other together with a fourth directly overhead ✓
4. 3 satellites with an azimuth of 120° from each other and an elevation of 45° above the horizon

✗

Flag this question

Question 47 of 109

Number: 4842

Question: In relation to the NAVSTAR/GPS satellite navigation system, what is involved in the differential technique (D-GPS)?

1. Signals from satellites are received by 2 different antennas which are located a fixed distance apart. This enables a suitable receiver on the aircraft to recognise and correct for multipath errors
2. Fixed ground stations compute position errors and transmit correction data to a suitable receiver on the aircraft
3. The difference between signals transmitted on the L1 and L2 frequencies are processed by the receiver to determine an error correction
4. Receivers from various manufacturers are operated in parallel to reduce the characteristic receiver noise error

Flag this question

Question 48 of 109

Number: 4843

Question: Which of the following statements about the accuracy that can be obtained with the differential technique (D-GPS) of the satellite navigation system NAVSTAR/GPS is correct?

1. Only D-GPS allows position fixes accurate enough for 'Non Precision Approaches'
2. The nearer a receiver is situated to a D-GPS ground station, the more accurate the position fix
3. A D-GPS receiver can detect and correct for SA providing a more accurate position fix
4. The increase in accuracy of position fixes is independent of the receiver position in relation to a D-GPS ground station

Flag this question

Question 49 of 109

Number: 4844

Question: How does a receiver of the NAVSTAR/GPS satellite navigation system determine the elevation and azimuth data of a satellite relative to the location of the antenna?

1. The data is stored in the receiver together with the Pseudo Random Noise (PRN) code
2. It calculates it by using Almanac data transmitted by the satellites
3. The data is determined by the satellite and transmitted together with the navigation message
4. The data is based on the direction to the satellite determined at the location of the antenna

Flag this question

Question 50 of 109

Number: 4845

Question: In relation to the NAVSTAR/GPS satellite navigation system, 'Search the Sky' is a:

1. continuous process by the ground segment to monitor the GPS satellites
2. procedure that starts after switching on a receiver if there is no stored satellite data available

3. continuous procedure performed by the receiver that searches the sky for satellites rising above the horizon
4. procedure performed by the receiver to recognise new satellites becoming operational

Flag this question

Question 51 of 109

Number: 4846

Question: What is the procedure to be followed if, on a flight under IFR conditions using the NAVSTAR/GPS satellite navigation system, the number of satellites required to maintain the RAIM (Receiver Autonomous Integrity Monitoring) function are not available?

1. The flight has to be continued under VFR conditions
2. The flight may be continued using other certificated navigation systems
3. The flight may be continued as planned if at least 4 satellites are available and the pilot monitors the GPS-System manually
4. A constant heading and speed must be flown until the required number of satellites are again available

Flag this question

Question 52 of 109

Number: 4847

Question: Which of the following, if any, is a prerequisite if a receiver of a NAVSTAR/GPS satellite navigation system is to be used in combination with a multi sensor system?

1. The RAIM-function of the GPS receiver must be able to monitor all prescribed navigation systems
2. The prescribed IFR-equipment must be in working correctly and the navigation information continuously displayed
3. Multi-sensor systems are not certificated for flights under IFR conditions
4. The prescribed IFR-equipment must be installed and operational

Flag this question

Question 53 of 109

Number: 4848

Question: Which of the following procedures must be adopted if, on a flight under IFR conditions using a NAVSTAR/GPS satellite navigation system receiver, the position fix obtained from the GPS receiver differs from the position of conventional navigation systems by an unacceptable amount?

1. It must be continued under VFR conditions
2. The pilot must determine the reason for the deviation and correct the error or switch off the faulty system
3. It may be continued using conventional navigation systems
4. It may be continued using NAVSTAR/GPS; prior to the next flight all systems must be checked

Flag this question

Question 54 of 109

Number: 4849

Question: What datum is used for the Minimum Descent Altitude (MDA) on a non-precision approach when using the NAVSTAR/GPS satellite navigation system?

1. Radar altitude
2. If using Differential-GPS (D-GPS) the altitude obtained from the D-GPS, otherwise barometric altitude
3. GPS altitude
4. Barometric altitude ✓

✗

✗ Flag this question

Question 55 of 109

Number: 4850

Question: Which of the following is the datum for altitude information when conducting flights under IFR conditions on airways using the NAVSTAR/GPS satellite navigation system?

1. Barometric altitude ✓
2. The average of GPS altitude and barometric altitude
3. GPS altitude if 4 or more satellites are received otherwise barometric altitude
4. GPS altitude

✗

✗ Flag this question

Question 56 of 109

Number: 4936

Question: Which of the following combinations of satellite navigation systems provide the most accurate position fixes in air navigation?

1. GLONASS and COSPAS-SARSAT
2. NNSS-Transit and GLONASS
3. NAVSTAR/GPS and GLONASS ✓
4. NAVSTAR/GPS and NNSS-Transit

✗

✗ Flag this question

Question 57 of 109

Number: 4937

Question: The required 24 NAVSTAR/GPS operational satellites are located on:

1. 3 orbital planes with 8 satellites in each plane
2. 6 orbital planes with 3 satellites in each plane plus 6 reserve satellites positioned in a geostationary orbital plane
3. 6 orbital planes with 4 satellites in each plane ✓
4. 4 orbital planes with 6 satellites in each plane

✗

✗ Flag this question

Question 58 of 109

Number: 4938

Question: Which of the following statements about the 'visibility' of NAVSTAR/GPS satellites is correct?

1. It is greatest at the poles
2. It is the same throughout the globe

3. It is greatest at the equator

4. It varies, depending on the time and observer's location ✓

✗

✗ Flag this question

Question 59 of 109

Number: 4939

Question: How many operational satellites are required for Full Operational Capability (FOC) of the satellite navigation system NAVSTAR/GPS?

1. 12
2. 18
3. 30
4. 24 ✓

✗

✗ Flag this question

Question 60 of 109

Number: 4940

Question: Which of the following satellite navigation systems has Full Operational Capability (FOC) and is approved for specified flights under IFR conditions in Europe?

1. NAVSTAR/GPS ✓
2. NNSS-Transit
3. GLONASS
4. COSPAS-SARSAT

✗

✗ Flag this question

Question 61 of 109

Number: 5584

Question: GPS system satellites transmit their signals on two carrier waves 1575 MHz and 1227 MHz and supply two possible codes accessible according to user (civil or military). Commercial aviation uses:

1. the two carrier waves and one public code
2. only the 1227 MHz carrier wave and one code
3. only the 1575 MHz carrier wave and two codes
4. only the 1575 MHz carrier wave and one code ✓

✗

✗ Flag this question

Question 62 of 109

Number: 5738

Question: Loran C coverage is:

1. confined to certain limited areas of the world ✓

2. unrestricted over the oceans and adjacent coastlines but limited over the major continental land masses
3. global
4. unrestricted between latitudes 70°N and 70°S

Flag this question

Question 63 of 109

Number: 5790

Question: The term "ABAS" signifies:

1. Airborne Based Augmentation Safety.
2. Aerial Broadcast Application Systems.
3. Airborne Based Application Safety.
4. Airborne Based Augmentation Systems.

Flag this question

Question 64 of 109

Number: 5759

Question: The different segments of the satellite navigation system NAVSTAR/GPS are the:

1. main control station, the monitoring station and the ground antennas
2. antenna, the receiver and the central control unit (CDU)
3. atomic clock, power supply and transponder
4. control, space and user

Flag this question

Question 65 of 109

Number: 5760

Question: One of the tasks of the control segment of the satellite navigation system NAVSTAR/GPS is to:

1. manipulate the signals of selected satellites to reduce the precision of the position fix
2. grant and monitor user authorisations
3. manufacture and launch the satellites
4. monitor the status of the satellites

Flag this question

Question 66 of 109

Number: 5761

Question: The main task of the user segment (receiver) of the satellite navigation system NAVSTAR/GPS is to calculate receiver position by:

1. monitoring the orbital planes of the satellites
2. transmitting signals which, from the time taken, are used to determine the distance to the satellite
3. selecting appropriate satellites automatically, to track the signals and to measure the time taken by signals from the satellites to reach the receiver
4. monitoring the status of the satellites, determine their positions and to measure the time

Flag this question

Question 67 of 109

Number: 5762

Question: One of the tasks of the space segment of the satellite navigation system NAVSTAR/GPS is to:

1. compute the user position from the received user messages and to transmit the computed position back to the user segment
2. transmit signals to suitable receivers and to monitor the orbital planes autonomously
3. monitor the satellites' orbits and status
4. transmit signals which can be used, by suitable receivers, to determine time, position and velocity

Flag this question

Question 68 of 109

Number: 5763

Question: The geometric shape of the reference system for the satellite navigation system NAVSTAR/GPS, defined as WGS 84, is:

1. a geoid
2. a mathematical model that describes the exact shape of the earth
3. a sphere
4. an ellipsoid

Flag this question

Question 69 of 109

Number: 5764

Question: In civil aviation, the height value computed by the receiver of the satellite navigation system NAVSTAR/GPS is the:

1. height above the WGS-84 ellipsoid
2. flight level
3. geometric height above ground
4. height above Mean Sea Level (MSL)

Flag this question

Question 70 of 109

Number: 5765

Question: In relation to the satellite navigation system NAVSTAR/GPS, the term 'inclination' denotes the angle between the:

1. horizontal plane at the location of the receiver and the orbital plane of a satellite
2. orbital plane and the earth's axis
3. orbital plane and the equatorial plane
4. horizontal plane at the location of the receiver and the direct line to a satellite

Flag this question

Question 71 of 109

Number: 5766

Question: How long does it take a NAVSTAR/GPS satellite to orbit the earth?

1. 365 days because the satellites are located in a geostationary orbit
2. Approximately 12 hours (1/2 of a sidereal day)
3. Approximately 24 hours (one sidereal day)
4. 12 days

Flag this question

Question 72 of 109

Number: 5767

Question: At what approximate height above the WGS-84 ellipsoid are NAVSTAR/GPS satellites circling the earth?

1. 10900 km
2. 19500 km
3. 20200 km
4. 36000 km

Flag this question

Question 73 of 109

Number: 5768

Question: The orbital planes of the satellite navigation system NAVSTAR/GPS are:

1. inclined 55° to the equatorial plane
2. inclined 90° to the equatorial plane
3. parallel to the equatorial plane
4. inclined 55° to the earth axis

Flag this question

Question 74 of 109

Number: 5769

Question: In which frequency bands are the L1 and L2 frequencies used by the satellite navigation system NAVSTAR/GPS for transmission of the navigation message?

1. UHF
2. SHF
3. VHF
4. EHF

Flag this question

Question 75 of 109

Number: 5770

Question: In relation to the satellite navigation system NAVSTAR/GPS, which of the following statements correctly describes the term 'Pseudo Random Noise (PRN)' signal?

1. PRN occurs in the receiver. It is caused by the signal from one satellite being received from different directions (multipath effect)
2. PRN is the atmospheric jamming that affects the signals transmitted by the satellites
3. PRN describes the continuous electro-magnetic background noise that exists in space
4. PRN is a code used for the identification of the satellites and the measurement of the time taken by the signal to reach the receiver ✓

✗

✗ Flag this question

Question 76 of 109

Number: 5771

Question: Which of the following NAVSTAR/GPS satellite navigation system codes can be processed by 'unauthorised' civil aviation receivers?

1. P and Y
2. C/A ✓
3. C/A- and P
4. P

✗

✗ Flag this question

Question 77 of 109

Number: 5772

Question: Almanac data stored in the receiver of the satellite navigation system NAVSTAR/GPS is used for the:

1. assignment of received PRN-codes (Pseudo Random Noise) to the appropriate satellite
2. correction of receiver clock error
3. recognition whether Selective Availability (SA) is operative
4. fast identification of received signals coming from visible satellites ✓

✗

✗ Flag this question

Question 78 of 109

Number: 5773

Question: How does a NAVSTAR/GPS satellite navigation system receiver recognise which of the received signals belongs to which satellite?

1. The receiver detects the direction from which the signals are received and compares this information with the calculated positions of the satellites
2. Each satellite transmits its signal on a separate frequency
3. The Doppler shift is unique to each satellite
4. Each satellite transmits its signal, on common frequencies, with an individual Pseudo Random Noise code ✓

Flag this question

Question 79 of 109

Number: 5774

Question: Which of the following data, in addition to the Pseudo Random Noise (PRN) code, forms part of the so called 'Navigation Message' transmitted by NAVSTAR/GPS satellites?

1. almanac data; satellite status information
2. time; data to impair the accuracy of the position fix
3. data to correct receiver clock error; almanac data
4. time; positions of the satellites

Flag this question

Question 80 of 109

Number: 5775

Question: What is the time taken to receive the complete Navigation Message (complete set of data) from all satellites?

1. 24 seconds (= 1 second per data frame)
2. 12 hours (= period of the satellites orbit)
3. 12.5 minutes (= 30 seconds per data frame)
4. 25 seconds (= 1 second per data frame)

Flag this question

Question 81 of 109

Number: 5776

Question: Which of the following statements concerning the L1 and L2 NAVSTAR/GPS transmission frequencies and codes is correct?

1. The higher frequency is only used to transmit the P code
2. The lower frequency is used to transmit both the C/A and P codes
3. C/A and P codes are transmitted at different times on both frequencies
4. The higher frequency is used to transmit both the C/A and P codes

Flag this question

Question 82 of 109

Number: 5777

Question: Which one of the following errors can be compensated for by a NAVSTAR/GPS receiver comparing L1 and L2 frequencies?

1. Receiver noise
2. Multipath
3. Tropospheric
4. Ionospheric delay

Flag this question

Question 83 of 109

Number: 5778

Question: With regard to radio waves propagation, a cycle is defined as:

1. the distance covered by a radio wave in one second.
2. the length of the pulse.
3. a number of ascillations per second.
4. a complete series of values of a periodical process.

Flag this question

Question 84 of 109

Number: 5779

Question: Concerning the NAVSTAR/GPS satellite navigation system, what is the meaning of the term 'Receiver Autonomous Integrity Monitoring' (RAIM)?

1. It is a technique by which a receiver ensures the integrity of the navigation information.
2. It is the ability of the GPS satellites to check the integrity of the data transmitted by the monitoring stations of the ground segment
3. It is a technique whereby the receivers of the world-wide distributed monitor stations (ground segment) automatically determines the integrity of the navigation message
4. It is a method whereby a receiver ensures the integrity of the Pseudo Random Noise (PRN) code transmitted by the satellites

Flag this question

Question 85 of 109

Number: 14187

Question: What is EGNOS (European Global Navigation Overlay System)?

1. Local Area Augmentation System (LAAS)
2. Local Area Differential GPS (LADGPS)
3. GLONASS
4. Wide Area Differential GPS (WADGPS)

Flag this question

Question 86 of 109

Number: 14191

Question: In accordance with ICAO Annex 10 the NAVSTAR/GPS global average 95% position accuracy in SPS should be :

1. 30m horizontally
2. 22m in 3D
3. 5m vertically
4. 13m horizontally

Flag this question

Question 87 of 109

Number: 14204

Question: The inclination to the equatorial plane of the NAVSTAR/GPS orbits is

1. 35º
2. 55º
3. 65º
4. 45º

Flag this question

Question 88 of 109

Number: 14406

Question: In relation to the satellite navigation system NAVSTAR/GPS, "All in View" is a term used when a receiver:

1. is tracking more than the required 4 satellites and can instantly replace any lost signal with another already being monitored.
2. requires the signals of all visible satellites for navigation purposes
3. is receiving the signals of all visible satellites but tracking only those of the 4 with the best geometric coverage
4. is receiving and tracking the signals of all 24 operational satellites simultaneously

Flag this question

Question 89 of 109

Number: 15360

Question: In accordance with ICAO Annex 10 the GPS NAVSTAR position accuracy in SPS should be for 95% of the time:

1. 5 metres vertically
2. 30 metres horizontally
3. 13 metres horizontally
4. 22 metres 3-D

Flag this question

Question 90 of 109

Number: 14976

Question: One of the tasks of the GPS control segment is

1. to detect the malfunctioning of satellites.
2. to calculate the accuracy of GPS.
3. to control continuously the motion of GPS-satellites.
4. to calculate and transmit differential corrections to users.

Flag this question

Question 91 of 109

Number: 14977

Question: One of the tasks of the GPS control segment is

1. to determine and send new ephemeris and new satellite clock error data to the GPS-satellites. ✓
2. to regulate the transmitted power by the satellites.
3. to control continuously the position and the motion of GPS-satellites.
4. to calculate and transmit differential corrections to users which are able to receive Wide Area Differential GPS systems.

✗

✗ Flag this question

Question 92 of 109

Number: 14987

Question: For what reason is a mask angle set-up in a GPS-receiver?

1. To deny the receiver the use of GPS-satellites with an elevation less than the mask angle. ✓
2. To select from all visible GPS-satellites the satellite-configuration which results in the smallest GDOP.
3. To make the receiver select GPS-satellites with a certain optimum elevation which is about equal to the mask angle.
4. To eliminate the reception of the signal from GPS-satellites with an elevation of about 90°.

✗

✗ Flag this question

Question 93 of 109

Number: 14859

Question: The GPS control segment consists of

1. Master Control Stations and Monitor Stations.
2. a Master Control Station, Monitor Stations, Ground Antenna's and Geostationary Satellites.
3. a Master Control Station, Monitor Stations and Geostationary Satellites.
4. a Master Control Station, Monitor Stations and Ground Antenna's. ✓

✗

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Question 94 of 109

Number: 6087

Question: Which statement is correct about GLOSSNASS/NAVSTAR GPS/GALILEO

1. all three system use time measurement to determine position. ✓
2. they are all using the same frequencies to permit a single receiver to work all three systems.
3. for position fixing they are all based on the WGS84 ellipsoid.
4. they all reach their degree of accuracy in polar areas.

✗

✗ Flag this question

Question 95 of 109

Number: 6088

Question: GPS time can be converted to UTC by application of the:

1. correction given by atomic clocks.
2. fixed rule.
3. time correction filtering formula.
4. UTC parameters sent in the navigation message. ✓

✗

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Question 96 of 109

Number: 6089

Question: In the event of the use of Selective Availability, how does this affect, if at all, the navigation accuracy of the NAVSTAR/GPS satellite navigation system ?

1. It has no influence because, by selecting of the most suitable signals, the computing process in the receiver is quicker
2. It increases because only signals from satellites in the most suitable geometric constellation are selected by the receiver
3. It degrades position accuracy by manipulating satellite signals ✓
4. It degrades accuracy by reducing the number of available satellites

✗

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Question 97 of 109

Number: 6090

Question: The basic elements of the satellite navigation system NAVSTAR/GPS are the:

1. atomic clock, power supply adn transponder.
2. antenna, the receiver and the central control unit (CDU).
3. control, space and user segments. ✓
4. main control station, the monitoring station and the ground antennas.

✗

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Question 98 of 109

Number: 6091

Question: Frequency band of the SBAS data link is:

1. 962 to 1213 MHz.
2. VHF band of ILS and VOR systems.
3. VHF band 108.0 to 111.975 MHz
4. a signal with the smae frequency as GPS. ✓

✗

✗ Flag this question

Question 99 of 109

Number: 6092

Question: Which statement is correct about the SBAS (Satellite-Based Augmentation Systems)?

1. In an SBAS the pseudo range corrections are sent to the users by geostationary satellites. ✓
2. In an SBAS the pseudo range correction are determined by geostationary satellites and sent to the users by a network of ground stations.
3. In an SBAS the pseudo range corrections are determined by geostationary satellites and sent to the users by the satellite of the satellite systems (e.g. by GPS satellites for GPS).
4. In an SBAS the pseudo range correction are sent to the users by the satellite of the satellite systems (e.g. by GPS satellites for GPS).

✗

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Question 100 of 109

Number: 6093

Question: GBAS ground subsystems provide two services, the precision approach service and the GBAS positioning service. The precision approach service provides:

1. horizontal position information to support RNAV operations.
2. deviation guidance for Final Approach Segments. ✓
3. horizontal position information on the ground.
4. deviation guidance for Going Around Segments.

✗

✗ Flag this question

Question 101 of 109

Number: 6094

Question: The VDB (VHF data broadcast) broadcasts the GBAS signal within its coverage area to avionics in GBAs-equipped aircraft. The VDB signal provided are:

1. error correction data and integrity data.
2. integrity data and approach data for one runway.
3. error correction data, integrity data and approach data for one runway.
4. error correction data, integrity data and approach data for more than one runway. ✓

✗

✗ Flag this question

Question 102 of 109

Number: 6095

Question: An SBAS (Satellite Based Augmentation System) consists of:

1. 4 elements.
2. 1 element.
3. 3 elements. ✓
4. 2 elements.

✗

✗ Flag this question

Question 103 of 109

Number: 6096

Question: The term "SBAS" signifies:

1. Satellite Based Augmentation Systems.
2. Satelliet Based Area Systems.
3. Supplement Based Augmentation Systems.
4. Service Broadcast Application Systems.

Flag this question

Question 104 of 109

Number: 6097

Question: EGNOS (European Geostationary Navigation Overlay Service) is a:

1. Satelliete Based Augmentation System (SBAS).
2. Local Area Augmentation System (LAA).
3. Ground Based Augmentation System.
4. Airborne Based Augmentation System (ABAS)

Flag this question

Question 105 of 109

Number: 6098

Question: SBAS messages are broadcast via:

1. polar orbit satellites.
2. low earth orbit satellites.
3. medium earth orbit satellites.
4. geostationary satellites.

Flag this question

Question 106 of 109

Number: 6099

Question: SBAS systems improve the performance of GPS by:

1. providing an additional signal coming from the geostationary satellites.
2. providing an additional signal to GPS receivers.
3. reducing clock errors.
4. providing an additional signal coming from the navigation satellites.

Flag this question

Question 107 of 109

Number: 6100

Question: Minimum Ground-Based Augmentation System (GBAS) plan coverage is:

1. 25NM from the landing threshold within 35° apart the final approach path and 10° apart between 25 and 30NM
2. 15NM from the landing threshold within 45° apart the final approach path and 20° apart between 15 and 20NM

3. 15NM from the landing threshold within 35° apart the final approach path and 10° apart between 15 and 20NM. ✓
4. 25NM from the landing threshold within 45° apart the final approach path and 20° apart between 25 and 20NM

✗

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Question 108 of 109

Number: 6101

Question: The term "GBAS" signifies:

1. General Broadcast Application Systems.
2. Ground Based Augmentation Systems. ✓
3. Ground Based Augmentation Software.
4. GPS Based Augmentaion Standard.

✗

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Question 109 of 109

Number: 6102

Question: Frequency band of the GBAS data link is:

1. a signal with the same frequency as GPS.
2. UHF band between 960 - 1215 MHz.
3. VHF band of ILS and VOR systems. ✓
4. VHF band 108.0 to 111.975MHz.

✗

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Question 1 of 1

Number: 6056

Question: MODE S How does a ground interrogation signal (Mode A and C) get transmitted to a transponder?

1. by using the long P4 pulse.
2. in form of pairs of interrogative pulses with an additional control pulse.
3. in the form of a series of pulses and a Special Position Identification (SPI) pulse.
4. in the form of pairs of pulses.