

INFRASTRUCTURES DEL TRANSPORT AERI (ITA)

Mid Term Exam - Fall semester 2021

Nov 2nd 2021

You have Permutation CODE 0 – GROUP 00

For each question **only one** answer is correct: Correct: +1 test point - Incorrect: -1/3 test points - No answer: 0 points

1. Aeronautical Information Services (AIS) are composed by:
 - (a) CNS, ATM, Search and Rescue, AIS, and Meteorology services.
 - (b) Alert services, flight information services and air traffic control.
 - (c) ASM, ATFM and ATS.
 - (d) AIP, NOTAM and CIRC.
2. Which of the following pieces of aeronautical information could potentially appear in a NOTAM message?
 - (a) "... runway 27L closed for maintenance ..."
 - (b) "... traffic at 11 o'clock at 2NM, 200ft below, Cessna 172 crossing from left to right..."
 - (c) "... wind is 280 at 20 kt, visibility is 5km, ..."
 - (d) All answers are correct.
3. Which of the following pieces of aeronautical information could potentially appear in a flight information service (FIS) message?
 - (a) "... runway 27L closed for maintenance ..."
 - (b) "... traffic at 11 o'clock at 2NM, 200ft below, Cessna 172 crossing from left to right..."
 - (c) "... wind is 280 at 20 kt, visibility is 5km, ..."
 - (d) All answers are correct.
4. Which of the following pieces of aeronautical information could potentially appear in an ATIS message?
 - (a) "... traffic at 11 o'clock at 2NM, 200ft below, Cessna 172 crossing from left to right..."
 - (b) "... sectorisation in Barcelona TMA from 10h to 12h is 11 Victor..."
 - (c) "... transition level is seven zero, ..."
 - (d) All answers are correct.
5. What is a NOTAM?
 - (a) It is a notice or advisory that contains useful information for pilots or potential hazards along a flight route or at a location, such as an airport.
 - (b) It is a type of airspace without air traffic control.
 - (c) It is the name that receives the aeronautical radiotelephony alphabet.
 - (d) It is a collision hazard information typically given by a flight information service to a pilot.
6. What is an aeronautical information circular (CIRC)?
 - (a) It is a notice or advisory that contains useful information for pilots or potential hazards along a flight route or at a location, such as an airport, in the short term.
 - (b) It is information for aircraft operators that typically contain administrative, explicative or advice that in the long term can affect their operations.
 - (c) It is a document where two air traffic control centres agree in how traffic is transferred (specifying, for instance exit flight levels).
 - (d) It is the chapter of the national AIP where the rules of the air that apply to that specific country are described.
7. Which air navigation service is the responsible to disseminate the visual approach charts to the aircraft operators?
 - (a) The airspace management (ASM) service.
 - (b) The flight information service (FIS).
 - (c) The aeronautical information service (AIS).
 - (d) The aerodrome traffic zone (ATZ) service.
8. Which air navigation service is the responsible to disseminate the rules of the air that apply to a specific country?
 - (a) The airspace management (ASM) service of the country.
 - (b) The flight information service (FIS) of the country.
 - (c) The aeronautical information service (AIS) of the country.
 - (d) The aerodrome traffic zone (ATZ) services of the country.
9. Which of the following statements is correct?
 - (a) In controlled airspace, an ATS clearance **may be** required to enter/exit the airspace, while in non-controlled airspace no ATS clearance is required to enter/exit the airspace.
 - (b) In controlled airspace, an ATS clearance **is always** required to enter/exit the airspace, while in non-controlled airspace no ATS clearance is required to enter/exit the airspace.
 - (c) In both controlled and non-controlled airspaces, an ATS clearance **may be** required to enter/exit the airspace.
 - (d) In both controlled and non-controlled airspaces, an ATS clearance **is always** required to enter/exit the airspace.
10. Airspace Management (ASM) is NOT responsible for:
 - (a) strategic civil-military coordination.
 - (b) designation of airspace types or classes.
 - (c) air traffic flow management.
 - (d) the design of the ATS route network.
11. Airspace Management strongly depends on:
 - (a) the Aeronautical Information Services (AIS) available.
 - (b) the actual weather conditions.
 - (c) the Communications, Navigation and Surveillance (CNS) infrastructure available.
 - (d) all the answers are correct.
12. Which of the following examples shows how ASM can improve airport capacity?
 - (a) by removing the holding patterns in the arrivals to Heathrow airport allowing more continuous descent approaches.
 - (b) by replacing tromboning procedures in Frankfurt with different holding patterns strategically located in the STARs and approaches.
 - (c) by allowing parallel visual approaches in San Francisco in good weather conditions.
 - (d) ASM cannot improve airport capacity.
13. What is a flight information region (FIR)?
 - (a) A specified airspace assigned to one air traffic controller (or two if working in pairs) providing flight information services.
 - (b) A specified airspace assigned to one air traffic controller (or two if working in pairs) providing alert services.

- (c) A specified airspace in which flight information and alert services are provided. It is the largest regular division of airspace in use in the world today.
- (d) A specified airspace above an airfield where flight information is provided to aircraft in the airfield traffic pattern.
14. North Atlantic tracks (NAT) are...
- (a) the static airway network in the North Atlantic airspace.
- (b) an organised en-route track network that is updated every day as a function of the wind field forecast.
- (c) the set of actual trajectory tracks that have been flown by all aircraft crossing the North Atlantic in a given period of time and considering realised weather.
- (d) the name given to the oceanic clearances required to enter the North Atlantic airspace.
15. A VFR aircraft is cruising with heading 130°. According to the ICAO flight level allocation scheme (*odd-even* rule), a possible flight level for this flight could be:
- (a) FL130
- (b) FL135
- (c) FL140
- (d) VFR flights do not fly using flight levels, but Altitudes.
16. An IFR aircraft is cruising with heading 130°. According to the ICAO flight level allocation scheme (*odd-even* rule), a possible flight level for this flight could be:
- (a) FL130
- (b) FL135
- (c) FL140
- (d) IFR flights do not fly using flight levels, but Altitudes.
17. During a descent, when the pilot reaches the transition level, he/she shall...
- (a) change the altimeter setting from QNH to STD.
- (b) change the altimeter setting from STD to QNH.
- (c) change the altimeter setting from QFE to STD.
- (d) do nothing in particular regarding the altimeter setting.
18. Why standard terminal arrival routes contain typically **minimum altitude** restrictions for certain segments?
- (a) To allow visual self-separation procedures.
- (b) To allow continuous descent operations (CDO).
- (c) To strategically de-conflict them with departures crossing from below.
- (d) To strategically de-conflict them with departures crossing from above.
19. In which of the following airspace classes VFR flights are not allowed?
- (a) VFR flights are allowed in all airspace classes, providing that they are conveniently equipped with VHF radio equipment and secondary radar transponder if so required.
- (b) in airspace class E.
- (c) in airspace class G.
- (d) in airspace class A.
20. Which of the following controlled airspace zones is sized to accommodate, approximately, the intermediate and final segments of an instrumental approach procedure?
- (a) The ATZ.
- (b) The CTR.
- (c) The TMA.
- (d) The CTA.
21. What features are taken into account when designing the size and shape of ATC sectors?
- (a) Long term traffic demand and its complexity.
- (b) Number of historical incidents a particular aircraft type had.
- (c) Actual weather conditions and short term (i.e. next hour approximately) traffic complexity.
- (d) All answers are correct.
22. Regarding the airspace opening scheme:
- (a) It defines how elementary sectors are collapsed. During the entire day, the sector configuration does not change.
- (b) It defines how elementary sectors are collapsed. The sector configuration may change during the day.
- (c) It defines at what time the airspace will be available for civil traffic.
- (d) None of the other answers are correct.
23. Which of the following answers is correct?
- (a) the ATC supervisor designs the size and shape of the different ATC sectors as a function of the traffic demand in his/her control center.
- (b) the ATC supervisor decides the best sectorisation to apply as a function of the traffic demand in his/her control center.
- (c) the ATC supervisor decides the best regulation to apply in case the traffic demand exceeds the capacity in one or more sectors of his/her control center.
- (d) all answers are correct.
24. The *free route* concept allows...
- (a) the pilot to freely plan a route joining two points without the need for overflying specific ground facilities and submit the route in the flight plan.
- (b) the procedure designer to design guided segments joining two points without the need for overflying specific ground facilities.
- (c) the pilot to freely chose a route joining two points without the need for overflying specific ground facilities at tactical level assuring self-separation with other aircraft.
- (d) all the answers are correct.
25. What is a TRA (temporary reserved area)?
- (a) a volume of airspace temporary reserved for IFR terminal manoeuvres where VFR traffic might transit under an ATC clearance
- (b) a volume of airspace temporary reserved for IFR terminal manoeuvres where VFR traffic cannot transit under any circumstance
- (c) a volume of airspace temporary reserved and allocated for specific use where civil traffic might transit under an ATC clearance.
- (d) a volume of airspace temporary reserved and allocated for specific use where civil traffic cannot transit under any circumstance.
26. Mark the **wrong** statement:
- (a) Alert Services are provided when Air Traffic Control is provided.
- (b) Flight Information Services are provided when Alert Services are provided.
- (c) Alert Services are provided when Flight Information Services are provided.
- (d) Flight Information Services are provided when Air Traffic Control is provided.
27. If we talk about a FIR, which of the following statements is **wrong**?
- (a) As far as practicable, Alert Services are provided in the whole FIR airspace.

- (b) As far as practicable, Flight Information Services are provided in the whole FIR airspace.
- (c) As far as practicable, Air Traffic Control services are provided in the whole FIR airspace.
- (d) Flight Information Services are provided in the FIR by means of different flight information sectors.
28. Which of the following is a clear objective of the air traffic control (ATC) service?
- (a) To expedite and maintain an orderly flow of air traffic (*).
- (b) To prevent collisions between aircraft (*).
- (c) To provide advice and information useful for the safe and efficient conduct of flights.
- (d) the two answers labeled with (*) are correct.
29. In the context of ATS, what is a flight information sector?
- (a) In the context of ATS, sectors are only used to provide ATC services.
- (b) A volume of airspace under the responsibility of one person (or a pair) who provide ATC, flight information and alert services within it.
- (c) A volume of airspace under the responsibility of one person (or a pair) who provide flight information and alert services within it.
- (d) In the context of ATS, sectors are only used to provide ATC and alert services.
30. Which is the Uncertainty Phase?
- (a) Incerfa
- (b) Alerfa
- (c) Detresfa
- (d) Palerfa
31. What is the international radiotelephony **urgency** signal for aviation?
- (a) The word *MayDay*.
- (b) The word *MayDay* repeated three times.
- (c) The word *Pan-Pan*.
- (d) The word *Pan-Pan* repeated three times.
32. Which of the following transponder codes indicates *unlawful interference*?
- (a) 7500.
- (b) 7600.
- (c) 7700.
- (d) None of the other answers is correct.
33. Which of the following VHF frequencies is the emergency or guard frequency?
- (a) 121.50 MHz
- (b) 177.00 MHz
- (c) 175.00 MHz
- (d) 123.50 MHz
34. What is a VOLMET?
- (a) A radio station broadcasting meteorological information of a certain area, including some relevant airports.
- (b) A radio station broadcasting meteorological information of a specific airport, indicating as well, the runway in service, the preferred IFR approach, the transition level and any other relevant information regarding airport operations.
- (c) A radio station broadcasting volcanic activity information in a certain area.
- (d) A special message issued by the International Volcanic Meteorology Office, regarding volcanic activity.
35. A VFR flight is flying inside an airspace of class C. The air traffic controller is responsible to separate it from:
- (a) all other IFR flights.
- (b) all other VFR flights.
- (c) all other VFR and IFR flights.
- (d) the controller has no separation responsibility with VFR flights in airspace class C.
36. Which of the following summarises the three high-level tasks that are always performed by an air traffic controller?
- (a) Aviate, Navigate and Communicate.
- (b) Coordinate clearances with other ATC units, coordinate civil-military operations, coordinate emergencies.
- (c) Gather and process data from flights and/or ground vehicles, issue clearances, coordinate clearances with other ATC units.
- (d) Gather and process data from flights and/or ground vehicles, separate aircraft, give flight information instructions.
37. In which situation, the visual contact with aircraft is the main data gathering source for an air traffic controller?
- (a) for the IFR clearance delivery dependency.
- (b) for the ground movement control dependency.
- (c) for the approach control dependency
- (d) Nowadays, visual contact with aircraft is not used as source of information by ATC anymore.
38. Which of the following information given by an air traffic controller should NOT be read-back by the aircraft crew?
- (a) the wind direction in a landing clearance.
- (b) the altitude in a altitude change clearance.
- (c) the transponder code.
- (d) the altimeter setting.
39. North Atlantic control typically requires the aircraft crew to:
- (a) Report their position only when requested by the ATC.
- (b) Report periodically their position every 2h.
- (c) Report periodically their position every 10° of longitude.
- (d) Switch-off the transponder.
40. Who is the responsible to issue air traffic control clearances?
- (a) The strategic controller
- (b) The tactical controller.
- (c) The planner controller.
- (d) The ATC supervisor.
41. The letters of agreement (LoA) define de conditions for:
- (a) The coordination between IFR flights and the ATS.
- (b) The coordination between adjacent sectors.
- (c) The correlation between the transponder code and the flight plan.
- (d) The coordination between the CFMU and the ATS centres to manage departure slots.
42. In general, in which of the following ATC dependencies radar vectoring (heading instructions) is mostly provided?
- (a) In area control (en-route control).
- (b) In aerodrome control Tower (TWR).
- (c) In ground control (GND).
- (d) In approach control (APP).
43. What ATC dependency is typically in charge to issue taxi clearances?
- (a) The en-route control.
- (b) The ground control.
- (c) The IFR clearance delivery.

- (d) The tower control.
44. What air traffic control dependency is typically in charge to issue start-up and push-back clearances?
- The en-route control.
 - The ground control.
 - The IFR clearance delivery.
 - The approach control.
45. Which of the following statements is NOT a new concept/system regarding the **communications** in the future CNS systems for ATM?
- Reduced VHF frequency spacing (8.33 kHz).
 - Automatic Dependent Surveillance (ADS).
 - Aircraft Communications Addressing and Reporting System (ACARS).
 - Controller-Pilot DataLink Communications (CPDLC).
46. Which of the following statements is NOT a new concept/system regarding the **communications** in the future CNS systems for ATM?
- Reduced VHF frequency spacing (8.33 kHz).
 - Transponder Mode-S.
 - Aircraft Communications Addressing and Reporting System (ACARS).
 - Controller-Pilot DataLink Communications (CPDLC).
47. Which physical transmission layer is used by the ACARS?
- Very high frequency (VHF) subnetwork.
 - Satellite communication.
 - High Frequency (HF) subnetwork.
 - All answers could be correct.
48. Which of the following options is correct, when talking about an ILS?
- the glideslope is the ground-based system and the localiser is the on-board system, both sending the appropriate navigation signals.
 - the localiser is the ground-based system and the transponder is the on-board system, both sending the appropriate navigation signals.
 - the localiser and the glideslope are ground-based systems that send different navigation signals.
 - the localiser and the glideslope are ground-based systems that send the same redundant navigation signal.
49. The main difference between a VOR and an NDB is that...
- the VOR emits with much more signal power than the NDB.
 - the NDB emits with much more signal power than the VOR.
 - with an NDB the pilot only knows a relative bearing to the NDB station, while with the VOR the pilot knows the position of the aircraft.
 - with an NDB the pilot only knows a relative bearing to the NDB station, while with the VOR the pilot has directional information (relative to the magnetic North) with respect to the VOR station.
50. What is the main difference between a Locator and a NDB?
- they are the same radionavigation system.
 - the Locator provides 3D guidance, while the NDB provides only 2D guidance.
 - the Locator is essentially the same system as the NDB, but with a lower radio coverage.
 - None of the other answers is correct.
51. What is the main consequence of **not** having atomic clocks in GPS receivers?
- We need at least a fourth satellite to calculate the position of the receiver.
 - We need at least a fifth satellite to calculate the position of the receiver.
 - All GPS receivers, in fact, are equipped with atomic clocks.
 - None of the other answers is correct.
52. Which of these statements is correct:
- The SBAS geostationary satellites compute the position of the user receiver (like, for instance an aircraft) and send this information to this user with at least 4 satellites to ensure a certain level of redundancy.
 - The SBAS geostationary satellites send to the user receiver different kinds of information, which are then used by this receiver to improve integrity and accuracy in the positioning.
 - The SBAS geostationary satellites only mimic the GPS satellites in order to improve the availability of the system.
 - The SBAS geostationary satellites provide advanced features such as ADS-B in remote areas (like oceans).
53. Who actually computes a GPS position?
- The receiver, using its own measurements and the information sent by, at least, four GPS satellites.
 - At least four GPS satellites, using the information sent by the receiver, which is then downlinked to the receiver.
 - The GPS ground control station, using the information sent by the receiver via the GPS satellites that are visible to the receiver.
 - The receiver and at least 4 GPS satellites: the receiver computes the 3D coordinates and the satellites compute the different time stamps, which are then downlinked to the receiver.
54. In the context of air navigation, what is an aircraft based augmentation system (ABAS)?
- A suite of algorithms and mathematical checks, embedded in the GNSS receiver, that are capable to detect misleading information from certain navigation satellites.
 - An enhanced antenna and amplifier that allows to significantly improve the GPS position accuracy.
 - The corresponding on-board receiver of a ground-based augmentation system, which allows to significantly improve the GPS integrity.
 - A technology that allows to improve GPS integrity based on a set of messages cooperatively interchanged among several aircraft flying in the same geographical area.
55. The ground-based augmentation system (GBAS) working principle is based on:
- an additional satellite that broadcasts the GPS errors.
 - the receiver autonomous integrity monitoring (RAIM) principle.
 - the similarity of the errors for receivers located "not far" from each other.
 - None of the other answers is correct.
56. Regarding the Satellite Based Augmentation System (SBAS)...
- It is a system that supports a wide-area or regional augmentation by using several additional satellite broadcast messages.
 - It is a system commonly composed of multiple ground receiving stations, located at accurately-surveyed points.
 - The ground stations take measurements of one or more GNSS satellite signals and other environmental factors which may impact the signal received by the users.

- (d) All the answers are correct.
57. Which is the European SBAS system?
- the WAAS.
 - the LAAS.
 - the EGNOS.
 - the Galileo.
58. Which is the European stand-alone GNSS system?
- the WAAS.
 - the LAAS.
 - the EGNOS.
 - the Galileo.
59. Which is the **main reason** that explains why the aviation industry has developed ground or satellite based augmentation systems for GPS?
- in order to enhance GPS positioning accuracy.
 - in order to meet the requirements for integrity and continuity of service needed in civil aviation.
 - in order to enhance navigation capabilities in oceanic or remote areas.
 - in order to augment the coverage of GPS.
60. Which of the following surveillance systems can detect an aircraft that is not willing to "cooperate"?
- The primary surveillance radar.
 - The secondary surveillance radar.
 - The ADS.
 - The TCAS
61. Which of the following surveillance systems transmits at the highest power?
- The primary surveillance radar (PSR).
 - The secondary surveillance radar (SSR).
 - The automatic dependent surveillance - broadcast (ADS-B).
 - The aircraft communications addressing and reporting system (ACARS).
62. Which transponder mode transmits only the transponder code of the aircraft?
- Mode A.
 - Mode B.
 - Mode C.
 - Mode S.
63. In the near future, the ATC will have automatic dependent surveillance - broadcast (ADS-B) receivers (the so called ADS-B in), but not the aircraft. In this case, what is the benefit of this technology?
- It will enable airborne separation assurance system (ASAS) applications.
 - There will be zero benefits because aircraft cannot share surveillance data among them.
 - It will enhance the controller situational awareness.
 - None of the other answers is correct.
64. In case of no wind...
- heading and track angles are the same.
 - the true airspeed and de ground speed are not the same.
 - The course and bearing angles are the same.
 - All answers are correct.
65. The navigation process by which a navigator calculates its current position by using a previously determined position and known or estimated speeds over an elapsed time and course is known as:
- Instrumental Flight Rules (IFR) navigation.
 - Special Visual Flight Rules (SVFR) navigation.
 - dead reckoning.
 - conventional navigation.
66. The airfield traffic pattern leg by which an aircraft flies in parallel and in the opposite direction of the landing runway is called:
- upwind.
 - crosswind.
 - downwind.
 - base.
67. Imagine a twin engine aircraft departing in IMC from a controlled airport. Few seconds after take-off, it hits birds, causing a fire in one of the engines and loosing all of its power. In this situation, the **aviate** function of the aircraft crew would be:
- to check if there is a contingency departure published for that airport and execute it.
 - to safely control the aircraft trajectory with the loss of power and to manage to extinguish the fire and shut down the engine.
 - to send a distress message to the air traffic control.
 - to revert to manual control and visual flight to safely land as soon as possible.
68. The direction, with respect to the North, that join two waypoints (or fixes), is called...
- track.
 - heading.
 - course.
 - bearing.
69. If the visibility is good enough for visual flight, then...
- we are in IMC and must fly under IFR.
 - we are in VMC and must fly under IFR.
 - we are in VMC and must fly under VFR.
 - we are in VMC and can fly under VFR or IFR.
70. Which of the following sentences is correct?
- In IMC an aircraft can fly under IFR or VFR.
 - In VMC an aircraft must always fly under IFR.
 - In VMC an aircraft must always fly under VFR.
 - None of the other answers is correct.
71. Imagine you are in charge of designing the new visual arrival procedure for VFR traffic to Sabadell aerodrome. You want to specify in the chart a reporting fix (waypoint). Which of the following statements is correct?
- You will use the intersection of the corresponding radial and distance from Sabadell VOR/DME at the fix coordinates.
 - You will use a visible landmark, such as a castle, a town or a visible antenna, nearby the fix coordinates.
 - You will use the intersection of the corresponding radials from Sabadell VOR and Barcelona VOR at the fix coordinates.
 - All the answers are correct.
72. Dead reckoning navigation...
- can only be used by VFR flights (except in case of an emergency).
 - can only be used by IFR flights (except in case of an emergency).
 - is typically used by VFR flights and in some cases also used by IFR flights.

- (d) is typically used by IFR flights and in some cases also used by VFR flights.
73. What is the cruise phase?
- The phase of the flight after the whole climb where the aircraft is at a constant altitude.
 - The phase of the flight that follows the departure procedure.
 - The phase of the flight that precedes the arrival.
 - All answers are correct.
74. What is the en-route phase?
- The phase of the flight where the aircraft is at a constant cruise altitude.
 - The phase of the flight that follows the departure procedure.
 - The phase of the flight that precedes the descent.
 - All answers are correct.
75. Regarding standard instrumental procedures, which of the following statements is correct?
- a designated national administration is responsible to publish them in the AIP, assuming nominal operations.
 - a designated national administration is responsible to publish them in the AIP, assuming nominal operations, but also publishing if needed contingency procedures.
 - the aircraft manufacturer is responsible to publish them in the AIP assuming nominal operations, but also publishing if needed contingency procedures.
 - the aircraft operator is responsible to publish them in the AIP assuming nominal operations, but also publishing if needed contingency procedures.
76. Who is the responsible to publish the standard operational procedures for an aircraft, such as the best moment to retract flaps/slats, deploy the landing gear, etc.
- the ANSP.
 - the aircraft operator.
 - the aircraft manufacturer.
 - The national safety agency.
77. Which of the following answers regarding the airfield traffic pattern is correct?
- Airfield traffic patterns are only defined for IFR flights executing circling to approach procedures.
 - Standard airfield traffic patterns are for IFR flights, while non-standard patterns are for VFR flights.
 - Standard airfield traffic patterns are at 1000 ft above the aerodrome elevation and with left turns.
 - All the other answers are correct.
78. Visual approaches with prescribed tracks...
- are typically used in the US (even at major airports) and for some circling-to-approach procedures.
 - are only published for VFR flights.
 - are only used as contingency procedures and must be designed by the operator of the aircraft.
 - do not longer exist nowadays.
79. When executing an airfield traffic pattern, how is the aircraft guided?
- there is no guidance, the traffic pattern is always executed visually.
 - with an ILS.
 - with one or more conventional radionavigation systems.
 - with an RNAV system.
80. ICAO regulations classify the aircraft according to their speed at the threshold as:
- Heavy, Medium and Light.
 - A, B, C, D, E and H.
 - CAT-I, CAT-II, CAT-IIIa, CAT-IIIb and CAT IIIc.
 - APV-I and APV-II.
81. In what situation an approach procedure cannot be a straight-in approach?
- when the angular difference between the final track alignment and the runway track exceeds a given value*
 - when the final descent gradient exceeds a given value*
 - both answers marked with a (*) are correct.
 - in case the procedure is a non-precision approach.
82. Regarding an approach procedure, which of the following items is a responsibility of the aircraft operator
- to compute the minimum descent altitude or decision altitude.
 - to compute the obstacle clearance altitude.
 - to compute the minimum safety distance with other conflicting procedures in the same area.
 - all other answers are correct.
83. The MDA...
- is the altitude that once reached the pilot must decide whether to continue or abort a non-precision approach.
 - is the minimum altitude to overfly the runway threshold, just before landing.
 - is the minimum altitude for circling approaches, while the DA is the minimum altitude for straight-in approaches.
 - None of the other answers are correct.
84. The OCA...
- is the safety margin between the aircraft and the highest obstacle in the final approach segment.
 - is the minimum visibility required for an instrumental approach procedure.
 - is a synonym of minimum descent altitude.
 - None of the other answers are correct.
85. Who is responsible to publish the OCA/H in an instrumental approach chart (IAC)?
- The aircraft operator.
 - The aircraft manufacturer.
 - Eurocontrol.
 - The appropriate ANS national administration.
86. When executing an instrumental approach procedure, the pilot must verify two basic criteria in order to decide whether the landing can be performed safely or not: the so-called landing minima. These two criteria are:
- VIS and RVR.
 - A minimum altitude (MDA or DA) and some minimum visibility conditions (VIS or RVR).
 - Straight-in approach and circling to approach conditions.
 - FAP and MAPt.
87. Which of the following statements is correct?
- Aircraft operators publish their approach charts in the AIP.
 - The appropriate national administration may compute a lower bound for the MDA and publish it in the AIP charts.
 - The appropriate national administration may compute the DA and enforce the operator to publish that value in their charts.
 - All the other answers are correct.

88. In an ILS approach, the approach minima are given by:
- A decision altitude and a minimum visibility.
 - A decision altitude and a minimum obstacle clearance altitude.
 - A minimum descent altitude and a minimum obstacle clearance altitude.
 - A minimum descent altitude and a minimum visibility.
89. In which case you could find an approach procedure with no decision height?
- In an E category approach.
 - In a Heavy category approach.
 - In an ILS CAT-III approach.
 - In a circling to approach.
90. Given a specific runway, which of the following approaches will lead (in general) to the highest MDA or DA?
- a ILS CAT-I straight-in approach procedure.
 - a VOR circling to approach procedure.
 - a VOR straight-in approach procedure.
 - a ILS CAT-II straight-in approach procedure.
91. In the San Francisco airport (SFO), two parallel approaches are executed if visibility meteorological conditions (VMC) are met. Otherwise, only one instrumental approach is executed in one of the runways. This is a illustrative example of a trade-off, or interdependency, between:
- flight efficiency and environmental impact.
 - flight efficiency and safety.
 - capacity and safety.
 - capacity and flight efficiency.
92. Minimum aircraft separation standards in oceanic areas are much larger than separation in continental areas with radar coverage. This is a illustrative example of a trade-off, or interdependency, between:
- flight efficiency and environmental impact.
 - flight efficiency and safety.
 - capacity and safety.
 - capacity and flight efficiency.
93. Why in Lleida Alguaire airport (a secondary airport with few traffic) continuous descent operations (CDOs) are (almost) always possible, while in Barcelona airport (a busy airport) they are hardly ever possible?
- Because in Lleida Alguaire RNAV approach procedures based on satellite navigation are implemented, increasing dramatically the airport capacity.
 - Because the capacity in Lleida Alguaire when executing CDOs is still significantly above the incoming traffic demand.
 - Because the orography surrounding Barcelona makes very difficult to safely execute CDOs due to minimum obstacle clearance altitudes.
 - Because Barcelona mainly operates with two simultaneous runways (one for departures and the other for arrivals), which makes impracticable the execution of CDOs.
94. It has been reported in many studies that the United States of America (USA) ATM system, if compared with the European system, handles almost the double of traffic but with much less technical staff and air traffic controllers involved. Which of the following potential reasons is correct?
- The European airspace is much more complex to manage in terms of aircraft density and network topology.
 - The European airspace is managed by many air navigation service providers, using different systems and procedures; and it is very constrained with several military zones.
 - The USA communication and navigation systems are much more advanced if compared with the European technology, leading to significant capacity increases.
 - The USA surveillance systems are more precise, allowing for lower separation margins between aircraft.
95. In which of the following processes, the capacity of a sector is modelled and analysed?
- In AirSpace Management (ASM).
 - In Air Traffic Flow and Capacity Management (ATFCM).
 - In the provision of Air Traffic Services (ATS).
 - In the provision of Air Information Services (AIS).

INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)

Mid Term Exam - Fall semester 2021

Correct answers

Question	CODE 0	CODE 1	CODE 2	CODE 3
Q 01	d	b	d	b
Q 02	a	b	a	d
Q 03	d	c	b	b
Q 04	c	a	b	c
Q 05	a	b	a	c
Q 06	b	a	a	c
Q 07	c	a	a	d
Q 08	c	d	c	d
Q 09	b	c	a	a
Q 10	c	d	a	d
Q 11	c	a	c	a
Q 12	c	c	b	d
Q 13	c	a	c	d
Q 14	b	d	b	a
Q 15	b	b	b	b
Q 16	a	a	d	b
Q 17	b	a	d	c
Q 18	c	b	b	b
Q 19	d	c	a	d
Q 20	b	d	a	d
Q 21	a	c	a	d
Q 22	b	d	d	d
Q 23	b	b	b	a
Q 24	a	b	c	c
Q 25	c	a	a	a
Q 26	b	c	d	a
Q 27	c	a	d	c
Q 28	d	b	a	d
Q 29	c	c	a	b
Q 30	a	c	c	c
Q 31	d	c	b	a
Q 32	a	c	c	b
Q 33	a	c	c	a
Q 34	a	d	c	a
Q 35	a	d	a	d
Q 36	c	a	a	a
Q 37	b	a	d	b
Q 38	a	b	a	b
Q 39	c	b	d	b
Q 40	b	a	d	a
Q 41	b	b	c	a
Q 42	d	b	b	c
Q 43	b	c	c	c
Q 44	b	c	b	a
Q 45	b	d	b	a
Q 46	b	c	d	b
Q 47	d	d	d	a
Q 48	c	b	b	a

Q 49	d	a	a	b
Q 50	c	d	a	b
Q 51	a	a	a	a
Q 52	b	a	d	d
Q 53	a	b	b	a
Q 54	a	d	c	c
Q 55	c	c	a	d
Q 56	d	d	d	a
Q 57	c	a	d	a
Q 58	d	a	a	b
Q 59	b	a	a	d
Q 60	a	d	c	d
Q 61	a	b	c	a
Q 62	a	a	b	d
Q 63	c	a	c	b
Q 64	a	d	b	d
Q 65	c	c	b	a
Q 66	c	a	d	d
Q 67	b	b	d	d
Q 68	c	b	b	a
Q 69	d	b	a	b
Q 70	d	a	a	c
Q 71	b	b	a	b
Q 72	c	b	d	a
Q 73	a	d	b	a
Q 74	b	c	c	d
Q 75	a	a	a	b
Q 76	c	c	d	a
Q 77	c	a	d	b
Q 78	a	c	b	a
Q 79	a	a	c	c
Q 80	b	d	b	b
Q 81	c	b	b	b
Q 82	a	a	d	d
Q 83	d	a	d	b
Q 84	d	b	b	d
Q 85	d	d	b	a
Q 86	b	c	d	b
Q 87	b	d	d	a
Q 88	a	b	b	a
Q 89	c	a	a	b
Q 90	b	d	a	b
Q 91	c	a	a	a
Q 92	c	a	d	d
Q 93	b	b	b	a
Q 94	b	d	c	c
Q 95	a	c	a	d