

# INFRASTRUCTURES DEL TRANSPORT AERI (ITA)

## Mid Term Exam - Spring semester 2021

April 19th 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. Which of the following pieces of aeronautical information could potentially appear in a NOTAM message?
  - (a) "... sectorisation in Barcelona TMA from 10h to 12h is 11 Victor..."
  - (b) "... Begur (BGR) VOR unserviceable from Oct 1st to Oct 15th 2019 ..."
  - (c) "... visibility more than 10km, clouds few at 3000ft, QNH one zero seven eight, ..."
  - (d) All answers are correct.
2. Which of the following pieces of aeronautical information could potentially appear in an ATIS message?
  - (a) "... runway 27L closed for maintenance ..."
  - (b) "... visibility more than 10km, clouds few at 3000ft, QNH one zero seven eight, ..."
  - (c) "... transition level is seven zero, ..."
  - (d) All answers are correct.
3. 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.
4. Which air navigation service is the responsible to **disseminate** the instrument 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.
5. Which air navigation service is the responsible to **design** the instrument approach charts for 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.
6. 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.
7. How can the Airspace Management (ASM) improve air transportation efficiency:
  - (a) by creating more direct routings.
  - (b) by managing modular ATC sector schemes.
  - (c) by enhancing civil-military concepts of operation.
  - (d) all other answers are correct.
8. According to the ICAO standards, how ATS routes contribute to provide strategic vertical separation between aircraft?
  - (a) IFR cruising altitudes are, in general, vertically separated by 1,000 ft from each other. Consecutive flight levels are used to fly in the opposite direction.
  - (b) VFR cruising altitudes are, in general, vertically separated by 1,000 ft from each other. Consecutive flight levels are used to fly in the opposite direction.
  - (c) IFR and VFR cruising altitudes are, in general, vertically separated by 500 ft from each other.
  - (d) all other answers are correct.
9. What is an upper information region (UIR)?
  - (a) A FIR in the upper airspace.
  - (b) A specified airspace above an airfield where flight information is provided to aircraft executing SIDs and STARs.
  - (c) A specified airspace above an airfield where flight information is provided to aircraft executing approaches.
  - (d) A specified airspace above an airfield where flight information is provided to aircraft in the airfield traffic pattern.
10. North Atlantic oceanic airspace is...
  - (a) A free-route area.
  - (b) A free-flight area.
  - (c) An area with only RNAV airways.
  - (d) A free-route area with an organised track system (called north Atlantic tracks).
11. 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.
12. When the pilot reaches the cruise altitude 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.
13. Why in standard instrumental departures charts **maximum altitude** restrictions for certain segments are typically indicated?
  - (a) To allow visual self-separation procedures.
  - (b) To allow continuous climb operations (CCO).
  - (c) To strategically de-conflict them with arrivals crossing from below.
  - (d) To strategically de-conflict them with arrivals crossing from above.
14. Which of the following controlled airspace zones is sized to accommodate all the aircraft flying in an aerodrome traffic pattern (downwind, base, final)?

- (a) The ATZ.
  - (b) The CTR.
  - (c) The TMA.
  - (d) The CTA.
15. Why TMA sectors are typically smaller than en-route sectors?
- (a) The statement is not true. TMA sectors are typically bigger than en-route sectors.
  - (b) In order to reduce the workload for the ATC to acceptable levels and guarantee some airspace capacity.
  - (c) Because TMAs cover typically smaller areas if compared with FIRs and UIRs.
  - (d) Because radar screens at the airport tower are typically smaller than in the area control centres.
16. What is an airspace opening scheme?
- (a) It defines how the shape of the sector assigned to a specific air traffic controller will change along the day.
  - (b) It defines the sequence of different sector configurations planned along the day.
  - (c) It defines the number of open sectors at the beginning of the day.
  - (d) It defines the maximum number of open sectors along the day.
17. The *free flight* 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.
18. Which of the following statements is correct when talking about free route airspace?
- (a) Within free route space the pilot can freely execute the flight between any entry and exit points, but must communicate the intentions to the air traffic control.
  - (b) Within free route space the aircraft operator can freely plan routes between any entry and exit points, but must specify the chosen route in the flight plan.
  - (c) Within free route space the air traffic controller can freely move aircraft from their planned routes by giving instructions (vectors) in order to expedite the flow of air traffic.
  - (d) Within free route space the air traffic controller is not responsible to guarantee separation between aircraft and will only assist them in case of an emergency.
19. In the context of flexible use of airspace, what is the main difference between a TRA (temporary reserved area) and a TSA (temporary segregated area)?
- (a) None of the other answers is correct.
  - (b) The TSAs are published in the ATS letters of agreement, while the TRAs are not.
  - (c) The TSAs are published in the AIP, while the TRAs are not.
  - (d) A civil aircraft might transit through a TRA if cleared by ATC, while in a TSA this transit is never possible if the TSA is activated.
20. Which is the correct order of these types of airspace/areas if we sort them **from non segregated to fully segregated**? (TSA: temporary segregated area; RCA: reduced coordination airspace; TRA: temporary reserved area; PCA: prior coordination airspace)
- (a) PCA, RCA, TSA, TRA.
  - (b) TRA, TSA, RCA, PCA.
  - (c) TSA, RCA, TRA, PCA.
  - (d) RCA, PCA, TRA, TSA.
21. A secondary objective of air traffic flow and capacity management (ATFCM) is...
- (a) to maximize the use of available airspace resources and coordination among them.
  - (b) not only slot allocation but also optimization of the network capacity.
  - (c) to monitor the network operations.
  - (d) all the answers are correct.
22. Which of the following causes might trigger ATFM regulations?
- (a) Bad weather conditions.
  - (b) Lack of aerodrome capacity.
  - (c) Special events such as large scale military exercises.
  - (d) all the answers are correct.
23. Which of the following ATFM initiatives is the most widely used in Europe and in the U.S.?
- (a) Ground holding.
  - (b) Level capping.
  - (c) Call for release.
  - (d) Miles in trail.
24. Which of the following ATFM initiatives is the most efficient in terms of minimising arrival delay?
- (a) Ground holding.
  - (b) Air holding.
  - (c) Level capping.
  - (d) All initiatives are similar in terms of arrival delay.
25. Schedule (or IATA) slots...
- (a) are defined in European airports twice a year.
  - (b) are defined early in the morning in European airports.
  - (c) are defined early in the morning in European airports, only if there is a demand/capacity imbalance.
  - (d) are defined by the Network Manager at any time when a demand/capacity imbalance exists.
26. In Europe, when a strike (union action) from French ATC is expected for the next week...
- (a) ATFM regulations take place.
  - (b) IATA regulations take place.
  - (c) airspace sectors are redesigned creating new sectorisations capable to handle the maximum amount of traffic demand.
  - (d) some airports outside France may be closed.
27. If an aircraft loses its ATFM slot while on ground the controller should:
- (a) Clear the aircraft to take-off as soon as possible.
  - (b) The controller does not consider the slots allocated to departing aircraft.
  - (c) Request the airline to fill a new flight plan in order to obtain a new slot.
  - (d) Send a message to the Network Manager informing about the delay and clear the aircraft to take-off as soon as possible.
28. In the context of ATFM, what is the CTOT (calculated take-off time)?
- (a) The original take-off time of an aircraft before it is affected by an ATFM regulation.
  - (b) The take-off time as calculated by the airport operator.

- (c) The take-off time as calculated by the air navigation service provider.
  - (d) The new take-off time assigned to an aircraft affected by an ATFM regulation.
29. Strategic ATFM should:
- (a) Balance flights next day with available ATC Capacity.
  - (b) Match long-term demand and needed ATC capacity.
  - (c) Manage current flights with existing ATC capacity.
  - (d) Define the national airspace policy and predetermined airspace structures.
30. Tactical ATFM should:
- (a) Balance flights next day with available ATC Capacity.
  - (b) Match long-term demand and needed ATC capacity.
  - (c) Manage current flights with existing ATC capacity.
  - (d) Define the national airspace policy and predetermined airspace structures.
31. What is the primary information sent by ATC dependencies to the Network Manager?
- (a) sector and airport capacities.
  - (b) flight plans.
  - (c) accurate weather data.
  - (d) slots and reroutings.
32. What is the primary information sent by aircraft operators to the Network Manager?
- (a) sector and airport capacities.
  - (b) flight plans.
  - (c) accurate weather data.
  - (d) slots and reroutings.
33. What is a Flow Management Position (FMP)?
- (a) a special position within an ATC area control center devoted to ATFM issues and interfacing the center with the Network Manager.
  - (b) the European implementation of ATFM, managed by Eurocontrol.
  - (c) the results of running the Network Manager PREDICT system the day before of operations (D-1) allowing Eurocontrol to define the ATFM measures that will be applied the D day.
  - (d) the Network Manager system (or facility) that processes the flight plans sent by the aircraft operators.
34. Which of the following Network Manager systems can provide historical data to generate future possible demand scenarios?
- (a) The DWH
  - (b) The EAD
  - (c) The ENV
  - (d) The RCAT
35. Alerting services shall be provided to...
- (a) For all aircraft provided with ATC service.
  - (b) To any aircraft known or believed to be the subject of unlawful interference.
  - (c) As far as practicable, to all other aircraft having filed a flight plan or otherwise known to the air traffic services.
  - (d) All are correct.
36. Flight information services shall be provided to...
- (a) all aircraft provided with ATC services (\*).
  - (b) all aircraft provided with alert services (\*).
  - (c) only VFR flights.
  - (d) the two answers labeled with (\*) are correct.
37. Which of the following is a clear objective of the flight information service?
- (a) To expedite and maintain an orderly flow of air traffic.
  - (b) To provide advice and information useful for the safe and efficient conduct of flights.
  - (c) To notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required.
  - (d) All answers are correct.
38. If an aircraft fails to land within 5 minutes, after receiving its landing clearance, and no communications from the aircraft are received, which of the following phases shall be activated?
- (a) Uncertainty phase.
  - (b) Alert phase.
  - (c) Distress phase.
  - (d) Awareness phase.
39. What is the international radiotelephony distress 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.
40. 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
41. What ATIS stands for? (when talking about the provision of ATIS)
- (a) Automatic Terminal Information Service.
  - (b) Aircraft Transponder Information Service (transponder mode S).
  - (c) Aircraft Transmission Incertitude System (awareness system).
  - (d) Autonomous Test for Integrity System.
42. In which of the following situations an air traffic controller shall give traffic information (information regarding collision hazards with other aircraft) to a VFR flight?
- (a) Whenever the aircraft is inside a CTR.
  - (b) Whenever the aircraft is inside a TMA.
  - (c) Whenever the aircraft is inside any airspace of class D.
  - (d) All the answers are correct.
43. A VFR flight is flying inside an airspace of class B. 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 B.
44. In which situation, the visual contact with aircraft is the main data gathering source for an air traffic controller?
- (a) for the tower dependency.
  - (b) for the approach control dependency in non busy airports.
  - (c) for the IFR clearance delivery dependency.
  - (d) Nowadays, visual contact with aircraft is not used as source of information by ATC anymore.

45. What is the role of the ATC supervisor in an ACC (area control center)?
- To decide the best sectorisation to apply from a list of pre-defined sectorisations.
  - If needed, to create new sectorisations different from those in the list of pre-defined sectorisations.
  - To assign delays, re-routings or level cappings to regulated traffic.
  - All the answers are correct.
46. In the context of ATS, what is the exit flight level (XFL)?
- The maximum flight level of an ATS sector.
  - The flight level an aircraft should have when being transferred from one ATS sector the the next one.
  - The flight level the altimeter setting is changed from QNH to STD.
  - The flight level the altimeter setting is changed from STD to QNH.
47. Which of the following sentences is correct, regarding the Letters of Agreement (LoA) in the context of ATS?
- The air traffic controllers must have a comprehensive knowledge of the LoA affecting their sectors.
  - The aircraft operators must have a comprehensive knowledge of the LoA affecting their flights.
  - The LoA are published in the AIP.
  - All answers are correct.
48. An aircraft has just landed at a major airport and has vacated the runway. In order to reach its gate at the terminal, an active runway needs to be crossed. Which control is responsible to deliver the needed clearance to cross the runway?
- The tower control.
  - The delivery control.
  - The ground control.
  - The approach control.
49. What ATC dependency is typically in charge to issue the approach clearance?
- The en-route control.
  - The approach control.
  - The tower control
  - The IFR clearance delivery.
50. In navigation, the track angle is defined as:
- the azimuthal angle between the wind and the aircraft heading.
  - the azimuthal angle of the ground speed vector.
  - the azimuthal angle of the true airspeed vector.
  - None of the other answers is correct.
51. 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.
52. The Visual Flight Rules (VFR) airfield traffic pattern leg by which an aircraft flies perpendicular to the runway and starts descending is called:
- upwind.
  - crosswind.
  - downwind.
  - base.
53. 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 **navigate** 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.
54. An aircraft operator (RNAV equipped) is defining the best route to go from Girona airport (LEGE) to Menorca airport (LEMH). According to the IFR navigation charts given in annex to this exam, which of the following IFR routes, as it would be written into an ATS flight plan, is correct?
- GIR – N727 – SARGO – A67 – MHN
  - GIR – BGR – A67 – SARGO – MHN
  - BGR – A67 – SARGO
  - None of the other answers is correct.
55. An aircraft operator (RNAV equipped) is defining the best route to go from Menorca airport (LEMH) to Girona airport (LEGE). According to the IFR navigation charts given in annex to this exam, which of the following IFR routes, as it would be written into an ATS flight plan, is correct?
- MHN – A67 – BGR – H110 – GIR
  - SARGO – N727 – GIR
  - SARGO – N727 – SALON – A27 – BGR
  - None of the other answers is correct.
56. Which type of fix is OLOTI, which appears in the SID chart for RWY20 in Girona airport?
- an intersection.
  - a VOR.
  - a RNAV waypoint.
  - none of the other answers is correct.
57. Regarding the SID MAMUK1H for RWY20 at Girona airport, which of the following statements is correct?
- All aircraft shall be at FL75 or above when overflying MAMUK.
  - All aircraft shall be at FL75 or below when overflying MAMUK.
  - All aircraft shall be at strictly below FL75 when overflying MAMUK.
  - All aircraft shall be at FL75 when overflying MAMUK.
58. Regarding the legs that compose the BGR4H SID for RWY20 at Girona airport, which of the following options is correct?
- The SID is formed by the succession of three consecutive VOR radials.
  - The SID is formed by one VOR radial, followed by a dead-reckoning leg, followed by another VOR radial.
  - The SID is formed by a dead-reckoning leg, followed by a DME arc, followed by a VOR radial.
  - The SID is formed by a VOR radial, followed by a DME arc, followed by a VOR radial.
59. Regarding the STARs chart for Girona RWY20, annexed to this exam, the radionavigation aid labelled as *GRN* is a:
- Localizer.
  - VOR/DME.
  - DME.
  - NDB.
60. If the visibility is **not good** enough for visual flight, then...

- (a) we are in VMC and must fly under IFR.
  - (b) we are in VMC and must fly under VFR.
  - (c) we are in IMC and must fly under VFR.
  - (d) we are in IMC and must fly under IFR.
61. In which situation the effect of the wind will have a bigger impact on the actual trajectory flown by an aircraft?
- (a) when flying a dead reckoning leg.
  - (b) when flying an NDB course.
  - (c) when flying a VOR radial.
  - (d) when flying a DME arc.
62. Which of the following statements is correct?
- (a) In general, the majority of aircraft will arrive at the cruise altitude when finishing the SID (\*).
  - (b) In general, the majority of aircraft will start the descent from the cruise altitude when starting the STAR (\*).
  - (c) Both answers marked with a (\*) are correct.
  - (d) None of the other answers is correct.
63. Who is the responsible to publish a contingency instrumental departure for a given runway?
- (a) the ANSP.
  - (b) the aircraft operator.
  - (c) the aircraft manufacturer.
  - (d) The national safety agency.
64. A pilot is executing an airfield traffic pattern. How does (s)he knows (s)he is in the downwind leg?
- (a) by using an MLS.
  - (b) by using an ILS
  - (c) by using radar vectoring.
  - (d) by using visual references.
65. Visual approaches with prescribed tracks...
- (a) are typically used in the US (even at major airports) and for some circling-to-approach procedures.
  - (b) are only published for VFR flights.
  - (c) are only used as contingency procedures and must be designed by the operator of the aircraft.
  - (d) do not longer exist nowadays.
66. When executing an airfield traffic pattern, the aircraft has always instrumental guidance, at least, in...
- (a) the downwind leg
  - (b) the final leg
  - (c) the downwind, base and final legs
  - (d) None of the other answers is correct.
67. Continuous descent operations are not possible in very congested airports. This is a illustrative example of a trade-off, or interdependency, between:
- (a) flight efficiency and environmental impact.
  - (b) flight efficiency and safety.
  - (c) capacity and safety.
  - (d) capacity and flight efficiency.
68. Noise optimal departures (i.e. minimising noise exposure over the population) typically require more fuel since the aircraft might be required to climb at not optimal speeds and/or fly longer distances to avoid certain populated areas. This is a illustrative example of a trade-off, or interdependency, between:
- (a) flight efficiency and environmental impact.
  - (b) flight efficiency and safety.
  - (c) capacity and safety.
  - (d) capacity and flight efficiency.
69. 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?
- (a) The European airspace is much more complex to manage in terms of aircraft density and network topology.
  - (b) 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.
  - (c) The USA communication and navigation systems are much more advanced if compared with the European technology, leading to significant capacity increases.
  - (d) The USA surveillance systems are more precise, allowing for lower separation margins between aircraft.
70. Imagine Barcelona's El Prat airport (which has 3 runways). The airport needs to do some maintenance in runway 07L-25R meaning this runway will be closed for a whole week. This fact is known with a couple of months in advance. Which of the following answers is correct?
- (a) Some airlines will be forced to cancel some flights arriving/departing Barcelona airport.
  - (b) Some airlines will be forced to deviate some flights to surrounding airports, such as Girona or Reus airports.
  - (c) Very likely, there will be ATFM delays for flights leaving from or arriving to Barcelona airport.
  - (d) Very likely, Barcelona airport will reduce the number of IATA slots allocated for that week.
71. Which of the following programs needs to be implemented in a wide area with multilateral agreements and involving (in the European case) several states?
- (a) Air Traffic Services.
  - (b) Air Traffic Flow Management.
  - (c) Airspace Management.
  - (d) Flexible Use of Airspace.
72. In which of the following processes, the capacity of a sector is modelled and analysed?
- (a) In AirSpace Management (ASM).
  - (b) In Air Traffic Flow and Capacity Management (ATFCM).
  - (c) In the provision of Air Traffic Services (ATS).
  - (d) In the provision of Air Information Services (AIS).
73. In which of the following processes, the class of an airspace (A, B, C, D, E, F or G) is determined?
- (a) In AirSpace Management (ASM).
  - (b) In Air Traffic Flow Management (ATFM).
  - (c) In the provision of Air Traffic Services (ATS).
  - (d) In the provision of Air Information Services (AIS).
74. Which of the following institutions is NOT an air navigation service provider (ANSP)?
- (a) ENAIRE.
  - (b) NATS.
  - (c) ENAV.
  - (d) EASA.
75. Air Traffic Management (ATM) is composed by:
- (a) AS, FIS and ATC.
  - (b) ASM, ATFM and ATS.
  - (c) ASM, ATFM, AIP, NOTAM and CIRC.
  - (d) CNS, ASM, ATFM, ATS, S&R, AIS and MET

76. Due to bad weather conditions, a given airport goes from 70 landings per hour to only 40 landings per hour. What has been lost?
- Capacity.
  - Efficiency.
  - Safety.
  - Inter-operability.
77. How can we measure efficiency in an airport?
- Counting, for instance, the number of take-off per unit of time.
  - Counting, for instance, the fuel burnt in taxi operations.
  - Counting, for instance, the number of runway incursions.
  - All the other answers are correct.
78. Which of the following indicators could be representative to measure safety in a Terminal Manoeuvring Area (TMA)?
- The number of TCAS resolution advisories (RA) in a given period of time.
  - The average length of trajectory level-offs in departures and/or arrivals.
  - The average departure delay due to ATFM measures.
  - The number of aircraft executing approaches in a given period of time.
79. What separation procedure is mainly used in oceanic airspace?
- Radar separation.
  - Self separation.
  - Procedural separation.
  - TCAS-only separation.
80. Typically, the minimum vertical separation between two aircraft in RVSM airspace is:
- 10000ft
  - 1000ft
  - 100ft
  - 10ft
81. Which of the following statements is correct?
- Tromboning procedures in terminal airspace are mainly designed to improve the efficiency of the flights, if compared with continuous descent operations.
  - Tromboning procedures in terminal airspace are mainly designed to improve airspace and airport capacity, if compared with holding patterns.
  - Tromboning procedures in terminal airspace are one of the collision avoidance layers.
  - All other answers are correct.
82. When talking about the Short Term Conflict Alert (STCA) system, which of the following statements **is wrong**?
- The STCA function alerts the controller to potential aircraft to aircraft collisions prior to loss of separation.
  - The STCA does not take into account the possible clearances given to the aircraft.
  - Future aircraft positions are estimations based on the velocity vectors of the aircraft.
  - The STCA communicates with the on-board TCAS and when a TCAS alarm triggers, also does the STCA alarm and vice-versa.
83. When the intruding aircraft is equipped with a transponder without altitude reporting capability, the TCAS (Traffic Collision Avoidance System) issues a:
- traffic advisory and vertical resolution advisory.
  - traffic advisory only.
  - traffic advisory and horizontal resolution advisory.
  - traffic advisory, vertical and horizontal resolution advisory.
84. If a potential collision conflict is detected by an ACAS II/TCAS system, what type of advisory is triggered first?
- A Resolution Advisory (RA) that includes a range of vertical speed at which the aircraft should be flown to avoid the potential collision.
  - A Resolution Advisory (RA) that includes a range of indicated airspeeds at which the aircraft should be flown to avoid the potential collision.
  - A Traffic Advisory (TA) that includes a range of vertical speeds at which the aircraft should be flown to avoid the potential collision.
  - A Traffic Advisory (TA), which is intended to assist the aircraft crew in the visual acquisition of the conflicting aircraft and/or raise their situational awareness.

# INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)

## Mid Term Exam - Spring semester 2021

Correct answers

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

Q 49	b	a	a	d
Q 50	b	d	a	a
Q 51	a	a	a	c
Q 52	d	a	d	a
Q 53	a	b	b	d
Q 54	c	d	c	d
Q 55	d	c	a	a
Q 56	a	d	d	c
Q 57	a	a	d	d
Q 58	b	a	a	c
Q 59	d	a	a	c
Q 60	d	d	c	b
Q 61	a	b	c	c
Q 62	d	a	b	a
Q 63	b	a	c	d
Q 64	d	d	b	b
Q 65	a	c	b	c
Q 66	d	a	d	a
Q 67	d	b	d	c
Q 68	a	b	b	c
Q 69	b	b	a	d
Q 70	c	a	a	a
Q 71	b	b	a	c
Q 72	a	b	d	a
Q 73	a	d	b	d
Q 74	d	c	c	d
Q 75	b	a	a	a
Q 76	a	c	d	c
Q 77	b	a	d	d
Q 78	a	c	b	a
Q 79	c	a	c	d
Q 80	b	d	b	b
Q 81	b	b	b	c
Q 82	d	a	d	a
Q 83	b	a	d	b
Q 84	d	b	b	c