INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)
Final Exam - Fall semester 2018

Correct answer: +1 point – Incorrect answer: -1/3 points – Blank answer: 0 points
For each question **only one answer** is correct

CODE 1 - GROUP 00

1. Which of the follwing 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.

2. 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.

3. How can Airspace Management (ASM) improve airspace capacity?

   (a) by designing strategically de-conflicted terminal flight procedures.

   (b) by means of radar vectoring.

   (c) by removing RNAV procedures.

   (d) all other answers are correct.

4. 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.

5. The main objective of airspace management (ASM) is to:

   (a) provide flight information services to civil aircraft according to the class of airspace.

   (b) keep the forecast demand below estimated capacity in airports and airspace sectors by issuing different flow management initiatives.

   (c) develop a network of ATS routes and airspace structures to try to accommodate the forecast air traffic volumes.

   (d) all the answers are correct.

6. An IFR aircraft is flying in RVSM airspace with heading 310^o. According to the ICAO flight level allocation scheme (*odd-even* rule), a possible flight level for this flight could be:

   (a) FL320

   (b) FL325

   (c) FL330

   (d) FL335

7. During a climb, when the pilot reaches the transition altitude, 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 STD to QFE.

   (d) do nothing in particular regarding the altimeter setting.

8. Which of the following volume is, in general, the biggest one?

   (a) TMA.

   (b) CTR.

   (c) ATC.

   (d) ATZ.

9. Which of the following ATFM initiatives is the most widely used in Europe and in the U.S.?

   (a) Ground holding.

   (b) Ground stop.

   (c) Pre-tactical re-routing.

   (d) Miles in trail.

10. European airports are...

    (a) typically regulated by *schedule* (or IATA) slots that suppose a rather worst case IMC scenario.

    (b) are not regulated at all.

    (c) are only regulated if the demand exceeds the capacity.

    (d) are only regulated in certain ECAC countries.

11. 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 an new slot.

    (d) Send a message to the CFMU (or Network Manager) informing about the delay and clear the aircraft to take-off as soon as possible.

12. According to the following definitions: EOBT (Estimated Off-Block Time), ETOT (Estimated take-off time), ETO (Estimated Time Over), COBT (Calculated Off-Block Time), CTOT (Calculated Take-Off Time), CTO (Calculated Time Over); which of the following time relationships is correct for an aircraft that has been affected by a ground holding ATFM regulation:

    (a) CTOT = EOBT + COBT

    (b) CTOT = EOBT + ground delay

    (c) CTOT = EOBT + ground delay + Taxi Time

    (d) CTOT = EOBT + ground delay + Taxi Time + Trip Time

13. 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.

14. What is the primary information sent by aircraft operators to the CFMU (or Network Manager)?

    (a) sector and airport capacities.

    (b) flight plans.

    (c) accurate weather data.

    (d) slots and rerouterings.

15. 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 CFMU.

(b) the European implementation of ATFM, managed by Eurocontrol.

(c) the results of running the CFMU 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 CFMU system (or facility) that processes the flight plans sent by the aircraft operators.

16. 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.

17. 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.

18. 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

19. 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) When the aircraft is inside a CTR.

(b) When the aircraft is inside a TMA.

(c) When the aircraft is inside any airspace of class D.

(d) All the answers are correct.

20. 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.

21. Which of the following summarises the three high-level tasks that are always performed by an air traffic controller?

(a) Gather and process data from flights and/or ground vehicles, issue clearances, coordinate clearances with other ATC units.

(b) Gather and process data from flights and/or ground vehicles, separate aircraft, give flight information instructions.

(c) Prevent collisions between aircraft (air and ground), expedite and maintain an orderly flow of air traffic, provide advice and information useful for the safe and efficient conduct of flights.

(d) Coordinate clearances with other ATC units, coordinate civil-military operations, coordinate emergencies.

22. What is the role of the ATC supervisor in an ACC (area control center)?

(a) To decide the best sectorisation to apply from a list of pre-defined sectorisations.

(b) If needed, to create new sectorisations different from those in the list of pre-defined sectorisations.

(c) To assign delays, re-routings or level cappings to regulated traffic.

(d) All the answers are correct.

23. 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.

24. Which of the following statements is correct with respect to the exit flight level (XFL) of an aircraft inside an ATC sector?

(a) The strategic controller of the following sector defines the XFL and the strategic controller of the current sector ensures it by clearing the aircraft to it.

(b) The ATC supervisor defines the XFL and the strategic controller ensures it by clearing the aircraft to it.

(c) The strategic controller defines and ensures the XFL by clearing the aircraft to it.

(d) The strategic controller defines the XFL and the tactical controller ensures it by clearing the aircraft to it.

25. Which of the following sentences is correct, regarding the Letters of Agreement (LoA) in the context of ATS?

(a) The air traffic controllers must have a comprehensive knowledge of the LoA affecting their sectors.

(b) The aircraft operators must have a comprehensive knowledge of the LoA affecting their flights.

(c) The LoA are published in the AIP.

(d) All answers are correct.

26. What air traffic control dependency is typically in charge to issue start-up and push-back clearances?

(a) The en-route control.

(b) The ground control.

(c) The IFR clearance delivery.

(d) The approach control.

27. The control dependency in charge of realising most of the the sequencing and merging operations of aircraft arriving at a busy airport is...

(a) the tower control.

(b) the en-route control.

(c) the ground control.

(d) the approach control.

28. How the letter *B* is spelled, according to the ICAO radio-telephony alphabet?

(a) Biktor.

(b) Bravo.

(c) Beta.

(d) Broquil.

29. Which is the radio-telephony callsign of a flight labelled as *BAW142* in an ATC radar screen?

(a) Bravo Alpha Whiskey One hundred and forty-two

(b) Brussels One Four Two

(c) Speedbird One Four Two

(d) British Airways One Four Two

30. At present, what is the principal communications method in continental Europe to link pilots with air traffic controllers?

(a) VHF voice communications.

(b) HF voice communications.

(c) Data-link communications.

(d) Satellite based communications.

31. Which of the following statements is NOT a new concept/system regarding the **communications** in the future CNS systems for ATM?

(a) Reduced VHF frequency spacing (8.33 kHz).

(b) Transponder Mode-S.

(c) Aircraft Communications Addressing and Reporting System (ACARS).

(d) Controller-Pilot DataLink Communications (CPDLC).

32. What is the main difference between a Locator and a Localiser?

(a) they are the same radionavigation system.

(b) the Locator provides 3D guidance, while the Localiser provides only 2D guidance.

(c) the Locator is essentially the same system as the Localiser, but with a lower radio coverage.

(d) None of the other answers is correct.

33. Which of these statements is correct:

(a) In order to compute a GPS position, the receiver needs to have at least 3 GPS satellites in sight.

(b) In order to compute a GPS position, the receiver needs to have at least 3 GPS satellites in sight. Nevertheless, for civil aviation a minimum of 4 GPS satellites are needed in order to meet the required accuracy.

(c) In order to compute a GPS position, the receiver needs to have at least 4 GPS satellites in sight.

(d) None of the other answers is correct.

34. The ground-based augmentation system (GBAS) working principle is based on:

(a) an additional satellite that broadcasts the GPS errors.

(b) the receiver autonomous integrity monitoring (RAIM) principle.

(c) the similarity of the errors for receivers located "not far" from each other.

(d) None of the other answers is correct.

35. Which is the European SBAS system?

(a) the WAAS.

(b) the LAAS.

(c) the EGNOS.

(d) the Galileo.

36. Which is the main problem of current version of GPS if used for civil aviation?

(a) Its lack of integrity.

(b) Not enough accuracy for terminal procedures.

(c) Not enough vertical accuracy for en-route procedures.

(d) Its lack of availability.

37. Which transponder mode can transmit the automatic dependent surveillance - broadcast (ADS-B) messages?

(a) Mode A.

(b) Mode B.

(c) Mode C.

(d) Mode S.

38. Where the automatic dependent surveillance - contract (ADS-C) is mainly used?

(a) In high air traffic density areas.

(b) In oceanic (and remote) areas.

(c) In low air traffic density areas.

(d) Currently, ADS-C is not being used anywhere yet.

39. Regarding the Instrumental Approach Chart (IAC) **Amarillo Intl. (AMA) VOR/DME RWY 22** annexed to this exam, the minimum descent altitude for an aircraft of **Category C** in a straight-in approach is

(a) 4080 ft.

(b) 3960 ft

(c) the approach depicted in this chart cannot be executed straight-in and therefore there is no minimum descent altitude for this case.

(d) None of the other answers is correct.

40. Regarding the same chart, the decision altitude for an aircraft of Category C in a straight-in approach is

(a) 4080 ft.

(b) 3960 ft

(c) the approach depicted in this chart cannot be executed straight-in and therefore there is no decision altitude for this case.

(d) None of the other answers is correct.

41. Regarding the same chart, the landing minima for an aircraft of **Category C** in approach to **runway 31** (yes!, runway 31) are:

(a) 4080 ft altitude and 1.5 statute miles of visibility.

(b) 4080 ft altitude and 1 statute mile of visibility.

(c) 3960 ft altitude and 0.5 statute miles of visibility.

(d) 400 ft altitude and 0.5 statute miles of visibility.

42. ~~Regarding the same chart, the landing minima for an aircraft of **Category D** in approach to **runway 22** are:~~

~~(a) 4080 ft altitude and 1.5 statute miles of visibility.~~

~~(b) 4240 ft altitude and 2 statute mile of visibility.~~

~~(c) 3960 ft altitude and 0.5 statute miles of visibility.~~

~~(d) 400 ft altitude and 1 statute miles of visibility.~~

43. Regarding the same chart, an aircraft starting an approach at the DEXBE IAF will execute, as initial approach segment:

(a) a 45/180 reversal procedure.

(b) a base turn reversal procedure.

(c) a racetrack procedure.

(d) a direct approach following the VOR PNH.

44. Regarding the same chart, an aircraft starting an approach at the JILPY IAF will execute, as initial approach segment:

(a) a 45/180 reversal procedure folowed by a DME arc.

(b) a DME arc.

(c) a racetrack procedure folowed by a DME arc.

(d) a direct approach following Radial 176 of PHN VOR.

45. Regarding the same chart, the final approach segment is

(a) a NDB course.

(b) a dead-reckoning leg.

(c) a VOR radial.

(d) there is no final segment in this procedure.

46. Regarding the same chart, the holding fix of the holding procedure defined at the end of the missed approach procedure is defined by:

(a) the intersection of two NDB courses.

(b) the intersection of two VOR radials.

(c) the intersection of a VOR radial and a DME arc.

(d) the PNH VOR/DME facility.

47. Regarding the same chart, imagine an aircraft established in the final approach segment for runway 22 and in present strong wind conditions **from the south**. If we assume that the pilot is correctly using the final approach radionavigation guidance, the **heading** of the aircraft will be:

(a) approximately 055

(b) approximately 235

(c) greater than 235

(d) smaller than 235

48. Regarding the same chart, imagine an aircraft established in the final approach segment for runway 22 and in present strong wind conditions **from the south**. If we assume that the pilot is correctly using the final approach radionavigation guidance, the **track** of the aircraft will be:

(a) approximately 055

(b) approximately 235

(c) greater than 235

(d) smaller than 235

49. Regarding the same chart, imagine an aircraft is instructed to hold at JILPI after executing the missed approach procedure. The aircraft will enter the hold with...

(a) a racetrack entry procedure.

(b) a direct or offset entry procedure.

(c) an offset or parallel entry procedure.

(d) a parallel or direct entry procedure.

50. Regarding the same chart, how is the MAPt defined?

(a) in this procedure, there is no MAPt.

(b) the MAPt is defined over the PNH VOR/DME facility at the MDA.

(c) the MAPt is defined at the intersection 235^o/0.5NM of PNH VOR/DME and at the MDA.

(d) the MAPt is defined by a timing of 0.5 minutes after overflying the FAF and at the MDA.

51. Regarding the same chart, how is the FAF defined?

(a) in this procedure, there is no FAF.

(b) the FAF is defined over PNH VOR/DME.

(c) the FAF is defined at the intersection 235^o/0.5NM of PNH VOR/DME.

(d) the FAF is defined at the intersection 235^o/5NM of PNH VOR/DME.

52. Regarding the same chart, the area P-47 that appears North of the IAF DEXBE is...

(a) a Dangerous area.

(b) a Parachuting area.

(c) a Prohibited area.

(d) a Restricted area.

53. Regarding the same chart, which of the following statements is correct?

(a) The approach starting at DEXBE is a circling-to approach, while the approach starting at JILPY is a straight-in approach.

(b) The approach starting at JILPY is a circling-to approach, while the approach starting at DEXBE is a straight-in approach.

(c) Both approaches starting at JILPY and DEXBE are circling-to approaches.

(d) Both approaches starting at JILPY and DEXBE are straight-in approaches.

54. An APV is a:

(a) an approach with vertical guidance but with navigation performance worse than precision approaches.

(b) a RNAV non precision approach.

(c) a circling to approach.

(d) a visual approach.

55. Which of the following statements is correct?

(a) Non-precision approaches always require a VOR or an NDB as main radionavigation system to provide guidance in the final approach segment.

(b) Non-precision approaches are executed when the ILS Localiser is not available.

(c) Non-precision approaches are executed when the ILS Locator is not available.

(d) None of the other answers is correct.

56. Which of these statements is **correct**?

(a) Precision approaches provide vertical guidance in the final approach segment, while APV and non precision approaches do not provide any vertical guidance.

(b) Precision and APV approaches provide vertical guidance in the final approach segment, while non precision approaches do not provide any vertical guidance.

(c) Precision approaches provide vertical guidance in the initial, intermediate and final approach segments, while APV and non precision approaches do not provide any vertical guidance.

(d) APV approaches are those where the final approach segment is executed visually.

57. Regarding an approach procedure, which of the following items is a responsibility of the aircraft operator

(a) to compute the minimum descent altitude or decision altitude.

(b) to compute the obstacle clearance altitude.

(c) to compute the minimum safety distance with other conflicting procedures in the same area.

(d) all other answers are correct.

58. The MDA...

(a) is the minimum altitude to start an IFR approach procedure.

(b) is used in VFR operations, while the DA is used in IFR operations.

(c) is the lowest altitude to which descent is authorized on the final approach segment if no sufficient visual references are met.

(d) None of the other answers are correct.

59. The MDA...

(a) is typically lower than the DA for the same runway.

(b) is typically lower than the OCA for the same runway.

(c) is typically lower in CAT-II approaches than in CAT-I approaches, for the same runway.

(d) None of the other answers are correct.

60. The OCA...

(a) is the minimum descent altitude for VFR flights.

(b) is the lowest altitude the pilot should have a clear view of the runway or airport, otherwise a missed approach procedure must be initiated.

(c) is the altitude from which a procedure becomes a Non Precision Approach.

(d) None of the other answers are correct.

61. In an ILS approach, the approach minima are given by:

(a) A decision altitude and a mimimum visibility.

(b) A decision altitude and a minimum obstacle clearance altitude.

(c) A minimum descent altitude and a minimum obstacle clearance altitude.

(d) A minimum descent altitude and a minimum visibility.

62. The IF can be defined...

(a) above a radionavigation facility.

(b) at the intersection between two VOR radials.

(c) at a given time after overflying the IAF.

(d) all answers are correct.

63. A racetrack procedure...

(a) is a type of initial approach segment.

(b) is a type of holding pattern.

(c) could be, for instance, a 45/180 procedure turn.

(d) is when an aircraft uses an active runway to taxi in the opposite direction from which it will take off or land.

64. The minimum decision height for an ILS CAT-II approach is:

(a) 300ft.

(b) 200ft.

(c) 100ft.

(d) 0ft.

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:

(a) Instrumental Flight Rules (IFR) navigation.
(b) Special Visual Flight Rules (SVFR) navigation.
(c) dead reckoning.
(d) conventional navigation.

66. Which is the correct order of priorities (from the highest to the lowest) when flying an aircraft?

(a) Aviate, Navigate and Communicate.
(b) Aviate, Communicate and Navigate.
(c) Communicate, Aviate and Navigate.
(d) Communicate, Navigate and Aviate.

67. The direction, with respect to the North, that join two waypoints (or fixes), is called...

(a) track.
(b) heading.
(c) course.
(d) bearing.

68. Which of the following methods is not valid to define an IFR radionavigation FIX:

(a) Overflying a facility.
(b) Some timing after overflying a facility.
(c) The intersection of a VOR radial and a NDB course.
(d) An important visual landmark.

69. Which of the following statements is **false**?

(a) Not all airports have published STARs.
(b) Not all airports have published SIDs.
(c) In general, all aircraft begin the descent when overflying the first fix of the STAR.
(d) A SID procedure can only be executed in IFR.

70. What is an omnidirectional instrumental departure?

(a) The departure that typically execute VFR flights.
(b) The departure that typically execute VFR flights, but only in non busy airports.
(c) The possibility to directly proceed to the desired airway, immediately after the take-off, by following a VOR radial or a NDB course.
(d) It is the name it takes the chart containing all the standard instrumental departures of a given airport.

71. According to Figure 1(a), the airfield traffic pattern leg marked with a star (*) is:

(a) The downwind leg for traffics to runway 07.
(b) The downwind leg for traffics to runway 25.
(c) The base leg for traffics to runway 07.
(d) The base leg for traffics to runway 25.

72. According to Figure 1(a), the airfield traffic pattern leg marked with a star (*) is:

(a) The final leg for traffics to runway 07.
(b) The final leg for traffics to runway 25.
(c) The crosswind leg for traffics to runway 07.
(d) The crosswind leg for traffics to runway 25.

73. What is the point marked with a "W" inside a circle in Figure 1(a)?

(a) It is a VFR reporting point for helicopter arrivals.
(b) It is a IFR reporting point for helicopter arrivals.
(c) It is a the intersection of radial 101 and DME distance 2.5NM of the SDE VOR/DME
(d) All answers are correct.

74. Who decides if a waypoint is of type fly-by or fly-over?

(a) The aircraft operator.
(b) The air traffic controller.
(c) The procedure designer.
(d) The pilot in command.

75. RNAV 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.

76. Regarding the figure 1(b), the Delta aircraft is:

(a) at FL250 and descending, cleared to FL160 and with a planned exit level at FL190.
(b) at FL250 and descending, cleared to FL190 and with a planned exit level at FL160.
(c) at FL190 and descending, cleared to FL250 and with a planned exit level at FL160.
(d) at FL190 and descending, cleared to FL160 and with a planned exit level at FL250.

77. Regarding the figure 1(b), what does the tip of the black line appearing next to each aircraft symbol indicate?

(a) The estimated position of the aircraft, after a given period of time, based on the current aircraft heading and speed.
(b) The estimated position of the aircraft, after a given period of time, based on the filed flight plan.
(c) The minimum separation distance between two aircraft.
(d) The black line gives a visual information to the controller regarding the vertical speed of the aircraft.

78. Regarding the figure 1(b), the heading of the Delta aircraft is:

(a) approximately 0
(b) approximately 45
(c) approximately 90
(d) approximately 130

79. Regarding Figure 1(c), the radionavigation aid labeled as AV is

(a) an NDB.
(b) a Locator.
(c) a VOR.
(d) a Localiser.

80. Regarding Figure 1(c), the initial approach segment to runway 11, starting at AST IAF is...

(a) a 45/180 procedure turn.
(b) a racetrack procedure.
(c) a racetrack procedure followed by a 45/180 procedure turn.
(d) an NDB course.

81. Regarding Figure 1(c), the initial approach segment to runway 11, starting at AV IAF is...

(a) an NDB course followed by a 45/180 procedure turn.
(b) a racetrack procedure.
(c) a racetrack procedure followed by an NDB course.
(d) there is no initial approach segment for the approach starting at this IAF.

82. Regarding Figure 1(c), the missed approach segment is composed by:

(a) two dead reckoning legs.

(b) two NDB courses.

(c) a dead reckining leg followed by an NDB course.

(d) an NDB course followed by a dead reckining leg.

83. Regarding Figure 1(c), how is the MAPt of the approach to runway 11 defined?

(a) a Locator.

(b) a Localiser.

(c) an NDB.

(d) the threshold of runway 11.

84. Regarding Figure 1(c), how is the FAF of the approach to runway 11, starting at AST IAF, defined?

(a) there is no FAF in this approach.

(b) above AST.

(c) above AV.

(d) at the intersection of courses 118^o and 343^o.

85. Regarding Figure 1(c), what is the intermediate segment of the approach to runway 11, starting at AST IAF?

(a) there is no intermediate segment in this approach.

(b) the leg with course 298^o, from AST to the intersection with the leg with course 343^o.

(c) the leg with course 118^o, from the end of turn to the intersection with the leg with course 343^o.

(d) the leg with course 343^o.

86. Regarding Figure 1(c), what is the final approach segment to runway 11?

(a) there is no final segment in this approach.

(b) a dead reckoning leg.

(c) an NDB course.

(d) a Locator course.

87. What is the airspace flow program (AFP)?

(a) the FAA ATFM program for airspace congestion.

(b) the FAA ASM program for route congestion.

(c) the FAA program to modernise ATM.

(d) the FAA pogram to modernise ATS.

88. Wich 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.

89. 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).

90. 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

91. 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.

92. Typically, the minimum vertical separation between two aircraft in RVSM airspace is:

(a) 10000ft

(b) 1000ft

(c) 100ft

(d) 10ft

93. Which of the following statements is correct?

(a) Tromboning procedures in terminal airspace are mainly designed to improve the efficiency of the flights, with respect to continuous descent operations.

(b) Tromboning procedures in terminal airspace are mainly designed to improve airspace and airport capacity, with respect to holding patterns.

(c) Tromboning procedures in terminal airspace are one of the collision avoidance layers.

(d) All other answers are correct.

94. Which of the following statements is NOT correct?

(a) Radar vectoring is a useful technique to sequence and merge arrival traffic flows, while maintaining high levels of capacity.

(b) Radar vectoring is a useful technique to maintain separation in case of a potential conflict between two aircraft.

(c) Radar vectoring requires a constant data-link communication between ground and air.

(d) Radar vectoring can only be applied when providing radar control.

95. When talking about the Medium Term Conflict Detection (MTCD) system, which of the following statements **is wrong**?

(a) The MTCD is the future version of the STCA, where conflicts will be detected much in advance.

(b) The MTCD can issue contextual warnings, where no loss of separation is likely if the aircraft is cleared according to the plan, but the encounter should be considered if one of the aircraft involved requests an alternative level.

(c) The MTCD takes into account the flight plan data to detect conflicts.

(d) The MTCD alerts the controller that a loss of separation is likely to occur within the limits of the current clearance.

96. When the intruding aircraft is equipped with a transponder without altitude reporting capability, the TCAS (Traffic Collision Avoidance System) issues a:

(a) traffic advisory and vertical resolution advisory.

(b) traffic advisory only.

(c) traffic advisory and horizontal resolution advisory.

(d) traffic advisory, vertical and horizontal resolution advisory.

97. Which kind of collision avoidance manoeuvres can a TCAS II TA provide?

(a) vertical-only manoeuvres.

(b) horizontal-only manoeuvres.

(c) both horizontal and vertical manoeuvres.

(d) TA does not provide any kind of collision avoidance manoeuvre.

98. Which of the following statements, regarding the Traffic-alert and Collision Avoiding System (TCAS), is correct?

(a) A TCAS resolution advisory (RA) has a higher priority than any ATC instruction given to avoid a mid-air collision.

(b) A TCAS traffic advisory (TA) has a higher priority than any ATC instruction given to avoid a mid-air collision.

(c) A TCAS traffic advisory (TA) has a higher priority than any pilot action, after visual adqusition of the intruder aircraft, to avoid a mid-air collision.

(d) All answers are correct.

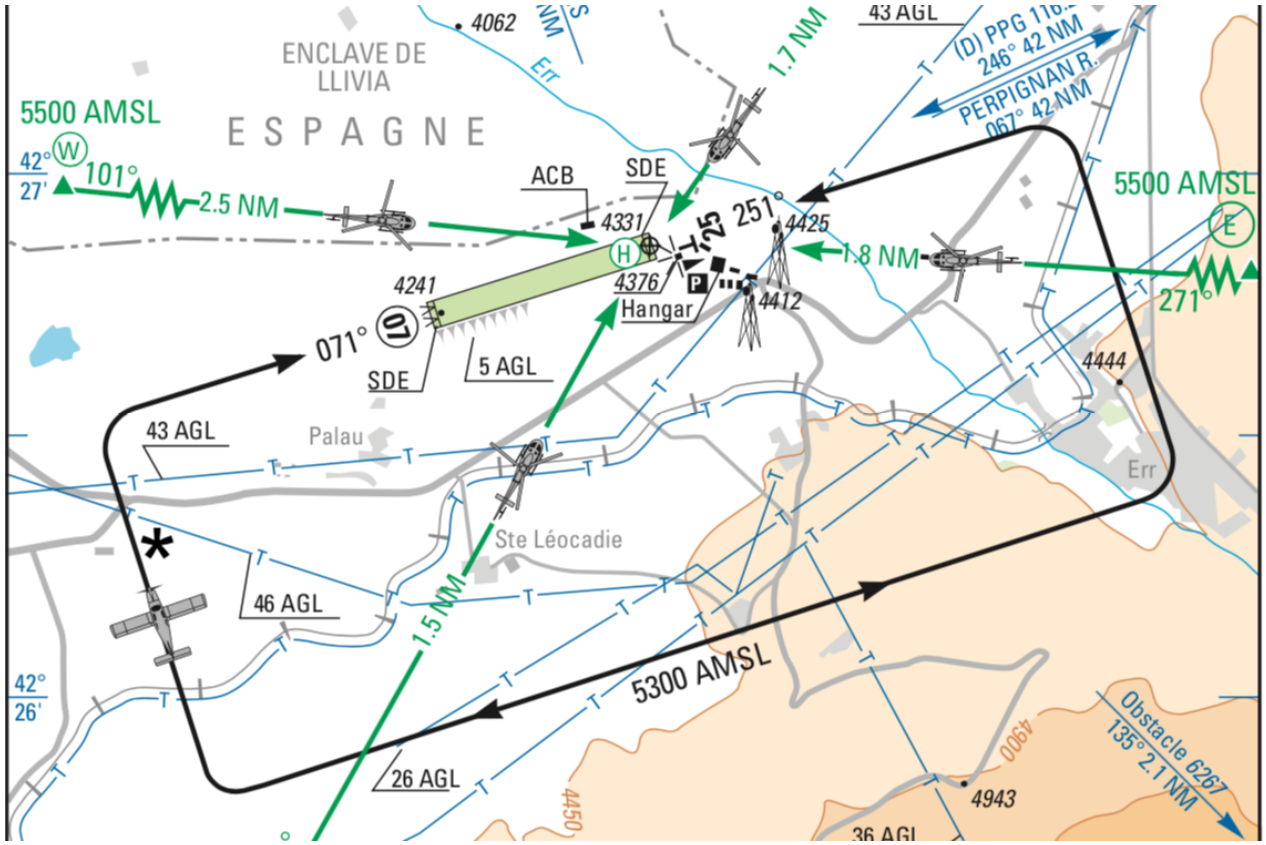
99. The TCAS is conceived as

(a) a procedural separation system.

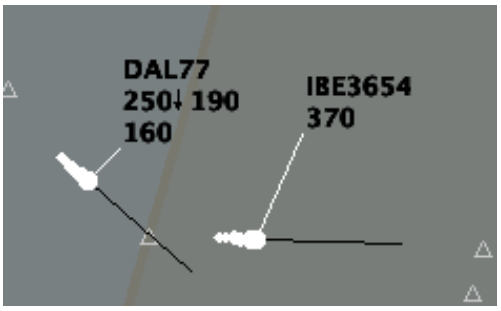
(b) a self-separation assurance system.

(c) a cooperative collision avoidance system.

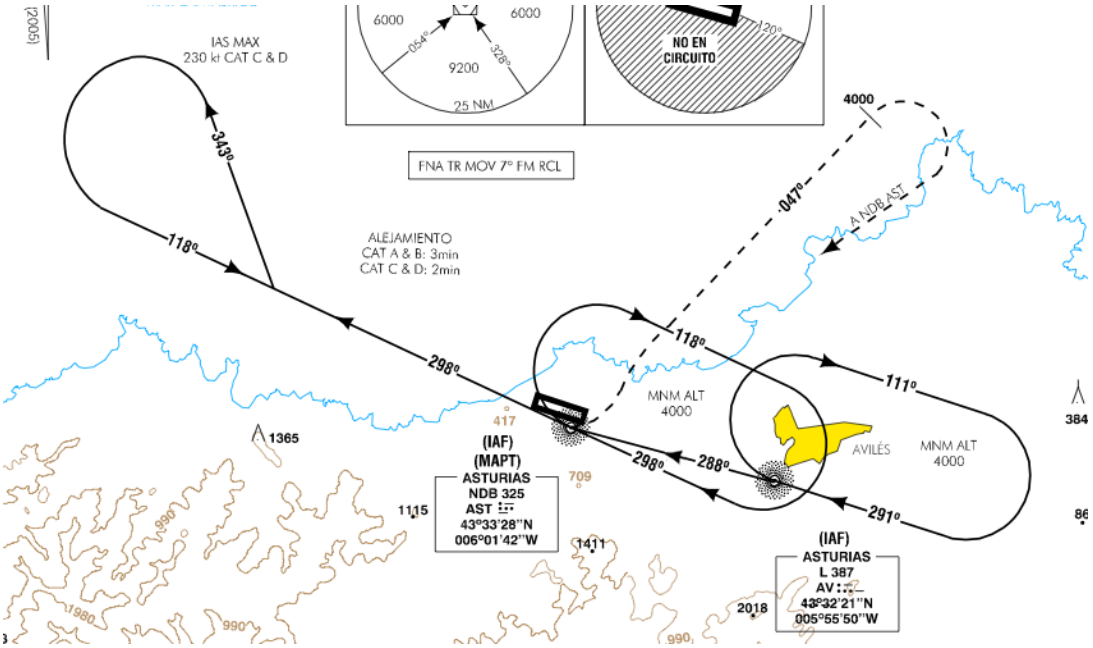
(d) All answers are correct.


ENCLAVE DE
LLIVIA
ESPAGNE
5500 AMSL
42° 27'
101°
2.5 NM
ACB
SDE
4331
4062
1.7 NM
43 AGL
(D) PPG 116.
246° 42 NM
PERPIGNAN R.
067° 42 NM
5500 AMSL
251°
4425
1.8 NM
271°
4376
Hangar
4412
4241
071°
10
SDE
5 AGL
4444
43 AGL
Palau
Err
Ste Léocadie
46 AGL
1.5 NM
5300 AMSL
42° 26'
26 AGL
4450
4900
4943
Obstacle 6267
135° 2.1 NM
36 AGL

(a)


DAL77
250↓ 190
160
IBE3654
370

(b)


IAS MAX
230 kt CAT C & D
6000
6000
9200
25 NM
NO EN
CIRCUITO
FNA TR MOV 7° FM RCL
4000
343°
118°
047°
A NDB AST
ALEJAMIENTO
CAT A & B: 3min
CAT C & D: 2min
298°
118°
111°
MNM ALT
4000
AVILÉS
MNM ALT
4000
1365
(IAF)
(MAPT)
ASTURIAS
NDB 325
AST
43°33'28"N
006°01'42"W
298°
288°
291°
(IAF)
ASTURIAS
L 387
AV
43°32'21"N
005°55'50"W
2018
1411
1115
709
417
384

(c)

Figure 1:

INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)
Final Exam - Fall semester 2018

Correct answers

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

P 49	c	c	b	d
P 50	c	c	d	b
P 51	d	d	d	a
P 52	c	c	d	b
P 53	c	a	d	d
P 54	a	d	c	a
P 55	d	a	b	c
P 56	b	a	d	c
P 57	a	c	d	d
P 58	c	a	c	c
P 59	d	a	a	d
P 60	d	b	d	b
P 61	a	d	b	a
P 62	d	a	c	d
P 63	a	a	a	b
P 64	c	b	a	a
P 65	c	c	a	a
P 66	a	d	d	a
P 67	c	d	d	b
P 68	d	a	b	a
P 69	c	c	a	a
P 70	c	b	a	c
P 71	c	d	a	c
P 72	d	a	b	a
P 73	a	d	b	d
P 74	c	c	a	d
P 75	b	a	d	c
P 76	b	d	b	b
P 77	a	c	a	b
P 78	d	c	c	b
P 79	b	c	a	a
P 80	a	c	c	c
P 81	a	b	b	c
P 82	b	a	b	b
P 83	c	a	d	a
P 84	a	c	d	a
P 85	a	d	b	b
P 86	c	d	b	c
P 87	a	a	b	b
P 88	b	a	a	a
P 89	a	a	a	b
P 90	b	b	c	b
P 91	d	d	c	d
P 92	b	b	a	b
P 93	b	a	d	a
P 94	c	d	c	b
P 95	a	a	c	b
P 96	b	d	a	c
P 97	d	b	c	a
P 98	a	b	c	b
P 99	c	d	a	d