

# INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)

## Mid Term Exam - Spring semester 2017

Correct answer: +1 point – Incorrect answer: -1/3 points – Blank answer: 0 points

For each question **only one answer** is correct

Assignatura 00213 – Centre 300 – Parcial 01

### Permutacio (CODE) 1

1. Which authority is responsible for the production of aeronautical charts?
  - (a) The Aeronautical Information Service.
  - (b) The Dirección de Navegación Aérea of AENA.
  - (c) The Flight Information Zones (FIZ) Service.
  - (d) None of the other answers is correct.
2. Airspace Management (ASM) is responsible for:
  - (a) all the answers are correct.
  - (b) communication, navigation and surveillance infrastructure.
  - (c) air traffic flow management.
  - (d) the design of the ATS route network.
3. Airspace management (ASM) initiatives or strategies are usually:
  - (a) implemented in real time by the initiative of the supervisor of an ATC center.
  - (b) implemented in real time by the initiative of an air traffic controller.
  - (c) proof mathematically and solved analytically.
  - (d) tested by several fast-time simulations and studies.
4. 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.
5. What is the most important characteristic of controlled airspace?
  - (a) aircraft need a clearance to enter.
  - (b) separation services are always provided.
  - (c) aircraft must be equipped with a transponder to enter.
  - (d) all answers are equally important and all them characterize controlled airspaces.
6. Which of the following airspace volumes is, in general, the smallest one?
  - (a) TMA.
  - (b) CTR.
  - (c) ATC.
  - (d) ATZ.
7. Which of the following airspace volume is, in general, the biggest one?
  - (a) TMA.
  - (b) CTR.
  - (c) ATC.
  - (d) ATZ.
8. What features are taken into account when designing the size and shape of ATC sectors?
  - (a) The actual traffic demand, based on submitted flight plans by aircraft operators.
  - (b) The route structure.
  - (c) The forecast weather conditions.
  - (d) All answers are correct.
9. 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.
10. What is a TSA (temporary segregated 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.
11. 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.
12. Regarding the flexible use of airspace (FUA) concept, the second level (pre-tactical level) deals with:
  - (a) The definition of national airspace policy and predetermined airspace structures.
  - (b) The day-to-day allocation of airspace, according to users requirements.
  - (c) The real-time use and management of available airspace.
  - (d) The definition of the sectorisation and capacity of the military airways.
13. Which of the following options is correct, when talking about an ILS?
  - (a) the glideslope is the ground-based system and the localiser is the on-board system, both sending the appropriate navigation signals.
  - (b) the localiser is the ground-based system and the transponder is the on-board system, both sending the appropriate navigation signals.
  - (c) the localiser and the glideslope are ground-based systems that send different navigation signals.
  - (d) the localiser and the glideslope are ground-based systems that send the same redundant navigation signal.

14. The main difference between a VOR and a 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.
15. 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).
16. 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).
  - Global Navigation Satellite System (GNSS).
  - Aircraft Communications Addressing and Reporting System (ACARS).
  - Controller-Pilot DataLink Communications (CPDLC).
17. Which of the following statements is true?
- CPDL may make worse the current shortage of available frequencies.
  - CPDL may allow reducing the use of voice communication between ATC and pilots.
  - CPDL is based in long text messages with attached images.
  - None of the other options is correct.
18. The number of VHF channels dedicated to pilot-controller voice communications can be increased by...
- Increasing the assigned frequency band (\*).
  - Decreasing the channel bandwidth (\*).
  - Increasing the channel bandwidth.
  - Both answers labelled with a (\*) are correct.
19. Regarding the propagation properties of HF and VHF airbands which of the following statements is NOT correct?
- HF airband is refracted back to the Earth, thus enabling long range radio communications.
  - In order to avoid mutual interference, two close VHF transmitters must use different frequencies.
  - VHF radio waves refract in the atmosphere and, therefore, the interference of the overall system is increased.
  - The VHF spectrum is a scarce resource but it is used in air navigation for several purposes.
20. Which physical transmission layer is mainly used for ATC communications when aircraft are flying over populated continental regions?
- A Very high frequency (VHF) subnetwork.
  - Satellite communication.
  - A High Frequency (HF) subnetwork.
  - All answers are correct.
21. 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.
22. Using GPS, own-ship position can be determined...
- by means of the Doppler effect.
  - by measuring the relative velocity to the satellites, whose velocity vectors are known.
  - by measuring the distance to the satellites, whose positions are known.
  - None of the other answers are correct.
23. 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 are correct.
24. The augmentation navigational information of the SBAS is based on:
- a communication satellite, situated in a low earth orbit (LEO).
  - a dedicated VHF channel.
  - a communication satellite, situated in a geostationary earth orbit (GEO).
  - a navigation satellite, situated in a low earth orbit (LEO).
25. What is the north-american SBAS system?
- the WAAS.
  - the LAAS.
  - the EGNOS.
  - the GPS.
26. Which is the main problem of current version of GPS if used for civil aviation?
- Its lack of integrity.
  - Not enough accuracy for terminal procedures.
  - Not enough vertical accuracy for en-route procedures.
  - Its lack of availability.
27. 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).
28. In civil aviation, which of the following transponder modes corresponds to the simplest system?
- Mode A.
  - Mode B.
  - Mode C.
  - Mode S.
29. The transponder mode that only transmits the squawk code and aircraft altitude is the transponder...
- Mode A.
  - Mode B.
  - Mode C.
  - Mode S.
30. A circling to approach...
- is the same than a non precision approach.
  - is the same than an APV approach.

- (c) is an approach that cannot be considered as a straight-in approach.
- (d) is only for approaches where the final approach segment has a miss-alignment of 15 degrees or more.
31. A circling to approach with prescribed tracks...
- (a) consists of a sequence of visual tracks that guide the pilot when flying the circling procedure.
- (b) consists of a sequence of instrumental tracks that guide the pilot when flying the circling procedure.
- (c) consists of a sequence of visual tracks to be avoided by the pilot when flying the circling procedure.
- (d) consists of a sequence of instrumental tracks to be avoided by the pilot when flying the circling procedure.
32. Which of the following statements is correct?
- (a) A VOR approach is always a NPA (non precision approach) procedure (\*).
- (b) A NPA (non precision approach) is always a VOR procedure (\*).
- (c) The answers marked with (\*) are correct.
- (d) None of the other answers are correct.
33. An ILS approach is generally a:
- (a) Straight-in approach and a precision approach.
- (b) Straight-in approach and a non precision approach.
- (c) Circling to approach and a precision approach.
- (d) Circling to approach and a non precision approach.
34. The MDA...
- (a) is the altitude that once reached the pilot must decide whether to continue or abort a non-precision approach.
- (b) is the minimum altitude to overfly the runway threshold, just before landing.
- (c) is the minimum altitude for circling approaches, while the DA is the minimum altitude for straight-in approaches.
- (d) None of the other answers are correct.
35. The OCA...
- (a) is the safety margin between the aircraft and the highest obstacle in the final approach segment.
- (b) is the minimum visibility required for an instrumental approach procedure.
- (c) is a synonym of minimum descent altitude.
- (d) None of the other answers are correct.
36. Who is responsible to publish the OCA/H in an instrumental approach chart (IAC)?
- (a) The aircraft operator.
- (b) The aircraft manufacturer.
- (c) Eurocontrol.
- (d) The appropriate ANS national administration.
37. Which of the following statements is correct?
- (a) The aircraft operator must compute and publish the OCA in the charts used by their pilots.
- (b) The aircraft operator must compute and publish the MDA in the charts used by their pilots.
- (c) The appropriate national administration must compute and publish the MDA in the AIP charts.
- (d) The appropriate national administration must compute a lower bound for the MDA and publish it in the AIP charts.
38. Which of the following statements is correct?
- (a) The appropriate national administration must approve the MDA computed by the aircraft operators.
- (b) The appropriate national administration must compute and publish the MDA in the AIP charts.
- (c) The aircraft operator must compute and publish the OCA in the charts used by their pilots.
- (d) The aircraft operator must compute and publish the OCA in the AIP charts.
39. In a VOR approach, the approach minima are given by:
- (a) A decision altitude and a minimum visibility.
- (b) A minimum descent altitude.
- (c) A minimum descent altitude and a minimum obstacle clearance altitude.
- (d) A minimum descent altitude and a minimum visibility.
40. In a Localiser approach, the approach minima are given by:
- (a) A decision altitude and a minimum visibility.
- (b) A minimum descent altitude.
- (c) A minimum descent altitude and a minimum obstacle clearance altitude.
- (d) A minimum descent altitude and a minimum visibility.
41. In a VOR approach procedure, the decision to land or to execute a missed approach must be taken, at the latest...
- (a) when reaching the MDA.
- (b) when reaching the DA.
- (c) when reaching the OCA.
- (d) when reaching the MAPt.
42. In a Localizer only approach procedure, the decision to land or to execute a missed approach must be taken, at the latest...
- (a) when reaching the MDA.
- (b) when reaching the DA.
- (c) when reaching the OCA.
- (d) when reaching the MAPt.
43. In which case you could find an approach procedure with no decision height?
- (a) In an E category approach.
- (b) In a Heavy category approach.
- (c) In an ILS CAT-III approach.
- (d) In a circling to approach.
44. Given a specific runway, which of the following approaches will lead (in general) to the highest MDA or DA?
- (a) a VOR circling to approach procedure.
- (b) a VOR straight-in approach procedure.
- (c) a ILS CAT-I straight-in approach procedure.
- (d) a ILS CAT-II straight-in approach procedure.
45. In which of the following procedures the final approach segment will start at a FIX and not a POINT?
- (a) In an ILS approach.
- (b) In a VOR approach (\*).
- (c) In a Localizer approach (\*).
- (d) The answers labelled with (\*) are correct.
46. The MAPt can be defined...
- (a) above a VOR.
- (b) at the intersection of an NDB course and a DME arc.
- (c) at a given time after overflying the FAF.
- (d) all answers are correct.
47. A racetrack procedure...
- (a) is a type of holding pattern.
- (b) could be, for instance, a 45/180 procedure turn.
- (c) is when an aircraft uses an active runway to taxi in the opposite direction from which it will take off or has landed.
- (d) None of the other answers are correct.

48. In a precision approach, the final segment ends:
- at the MAPt.
  - at the FAF or FAP.
  - at the end of turn.
  - when reaching the DA while following the final approach track.
49. The minimum decision height for an ILS CAT-II approach is:
- 300ft.
  - 200ft.
  - 100ft.
  - 0ft.
50. Imagine an twin engine aircraft departing in IMC from a controlled airport. Few seconds after take-off, it hits birds, which cause 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 safely control the aircraft trajectory with the loss of power and to manage to extinguish the fire and shut down the engine.
  - to check if there is a contingency departure published for that airport and execute it.
  - 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.
51. Imagine an twin engine aircraft departing in IMC from a controlled airport. Few seconds after take-off, it hits birds, which cause 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 revert to manual control and visual flight to safely land as soon as possible.
  - to send a distress message to the air traffic control.
52. The direction, with respect to the North, to which the nose of the aircraft is pointing to, is called...
- track.
  - heading.
  - course.
  - bearing.
53. The direction, with respect to the North, that join two waypoints (or fixes), is called...
- track.
  - heading.
  - course.
  - bearing.
54. Which of the following aircraft instruments are mainly used to perform the *aviate* function in IMC conditions?
- the VOR, the ADF (NDB receiver) and the DME.
  - the artificial horizon, the airspeed indicator and the altimeter.
  - the *aviate* function is always executed visually and no instruments are required.
  - all engine related instruments.
55. If the visibility is good enough for visual flight, then...
- we are in IMC and must fly according to IFR.
  - we are in VMC and must fly according to IFR.
  - we are in VMC and must fly according to VFR.
  - we are in VMC and can fly according to VFR or IFR.
56. Which of the following methods shall be used to define a VFR reporting point?
- Overflying a radionavigation facility.
  - Some timing after overflying a radionavigation facility.
  - The intersection of a VOR radial and a NDB course.
  - An significant landmark.
57. Who is the responsible to publish a contingency instrumental departure for a given runway?
- the ANSP.
  - the aircraft operator.
  - the aircraft manufacturer.
  - The national safety agency.
58. 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.
59. According to Figure 1...
- Turns in the airfield traffic pattern are always to the right.
  - Turns in the airfield traffic pattern are always to the left.
  - Turns in the airfield traffic pattern are to the right for runway 31 and to the left for runway 13.
  - Turns in the airfield traffic pattern are to the left for runway 31 and to the right for runway 13.
60. Regarding Figure 1, what does the point *Echo* (E) in the chart indicate?
- a VOR.
  - an NDB.
  - a visual reference point for the arrival procedure.
  - a visual reference point for the departure procedure.
61. Which is the principal method of navigation for VFR flights?
- dead reckoning.
  - radar vectoring.
  - RNAV.
  - Locator courses.
62. How are VFR arrivals typically defined?
- It is not possible to define arrivals in VFR, since radionavigation means are required to define arrivals.
  - Using visual reporting points and dead reckoning indications between these points.
  - Using contingency charts, especially designed by the operator.
  - Using STAR charts designed by the ANSP and published in the AIP.
63. When executing an airfield traffic pattern, the aircraft has always instrumental guidance, at least, in...
- the downwind leg
  - the final leg
  - the downwind, base and final legs
  - None of the other answers is correct.
64. Consider the VFR chart of the area around Limoges, provided in annex to this exam. The airspace class over the NDB LSU (south-west of Limoges airport) at 4500 ft QNH is:
- Class C.
  - Class D.
  - Class E.

- (d) Class G.
65. A small aircraft **with no VHF radio equipment** flying in VFR wants to fly from *St Junien (LFBJ)*, located at the west of Limoges, to the north-east following a route of constant heading of approximately 030°. Check the VFR chart provided in annex to this exam. Which of the following answers is correct?
- This flight cannot be done without a VHF radio.
  - This flight can only be done providing the aircraft will not enter the CTR of Limoges.
  - This flight can only be done providing the aircraft will not enter the CTR of Limoges, and remain always below 1000 ft above ground level.
  - This flight can only be done providing the aircraft will not enter the CTR of Limoges, and remain always above 1000 ft above ground level and below 4000 ft above the mean sea level.
66. An IFR flight is crossing the Limoges airspace at **3500ft QNH** following a straight line from **south to north** that overflies Limoges airport. According to the VFR chart provided in annex to this exam, at which point this aircraft will need a clearance before entering controlled airspace?
- Before entering the TMA Limoges 2 (approximately over St. Yrieix-la-Perche).
  - Before entering the TMA Limoges 1 (approximately over Nexoh).
  - Before entering the CTR Limoges 1.
  - Before entering the CTR Limoges 2.
67. A VFR flight is crossing the Limoges airspace at **1500ft above ground level** following a straight line from **south to north** that overflies Limoges airport. According to the VFR chart provided in annex to this exam, at which point this aircraft will need a clearance before entering controlled airspace?
- Before entering the TMA Limoges 2 (approximately over St. Yrieix-la-Perche).
  - Before entering the TMA Limoges 1 (approximately over Nexoh).
  - Before entering the CTR Limoges 1.
  - Before entering the CTR Limoges 2.
68. A IFR flight is crossing the Limoges airspace at **2500ft QNH (2000 ft above ground level approximately)** following a straight **north to south** line, which overflies Limoges airport. According to the VFR chart provided in annex to this exam, at which point this aircraft will need a clearance before entering controlled airspace?
- Before entering the TMA Limoges 2.
  - Before entering the TMA Limoges 1.
  - Before entering the CTR Limoges 1.
  - Before entering the CTR Limoges 2.
69. A small aircraft **with no VHF radio equipment** flying in VFR wants to fly the black dotted line over the Limoges area at a constant altitude. Which of the following altitudes does not require to request a clearance to enter into controlled airspace?
- This flight cannot be done without a VHF radio.
  - 500ft ASFC.
  - 2000ft QNH.
  - 4500ft QNH.
70. A search and rescue helicopter is at the St. Cyprien beach, at the south-east of Perpignan and must transport urgently a wounded person to the Hospital, which is located in Perpignan city (slightly north-west of the PL NDB). This transfer flight is planned at 500 ft above the terrain and in VFR. In these conditions, which of the following statements is correct (check the VFR chart provided in annex to this exam)?
- The pilot must always be in radio-contact with the ATC during the whole flight.
  - The pilot must receive a clearance to enter the CTR of Perpignan.
  - Is not necessary for the pilot to contact the ATC (albeit it is recommended).
  - VFR flights cannot enter the CTR of Perpignan. However, being a search and rescue aircraft this helicopter can proceed with the planned flight.
71. Consider the VFR chart of the area around Perpignan, provided in annex to this exam. The lower limit of the Dangerous area D142, located over the mediterranean sea is:
- the sea level.
  - 3000 ft above the sea level.
  - 3000 ft above the elevation of Perpignan airport.
  - 3000 ft above the 1013.25 hPa isobar.
72. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. The airspace class at 1300 ft above ground level over the town of *Le Soler* (West of Perpignan city and with an elevation of approximately 700 ft) is:
- Class A.
  - Class D.
  - Class E.
  - Class G.
73. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. An **IFR flight** is flying from Barcelona to Perpignan VOR at **3500ft over mean sea level** and is following a trajectory approximately depicted by an arrow in the chart (bottom right area). What is the name of the first airspace block in France that the pilot must contact compulsorily (neglect the elevation of the terrain along the French border)?
- TMA Perpignan 1
  - TMA Perpignan 2
  - TMA Perpignan 4
  - TMA Perpignan 6
74. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. An **IFR flight** is flying from Barcelona to Perpignan VOR at **6000ft over mean sea level** and is following a trajectory approximately depicted by an arrow in the chart (bottom right area). What is the name of the first airspace block in France that the pilot must contact compulsorily?
- TMA Perpignan 1
  - TMA Perpignan 2
  - TMA Perpignan 4
  - TMA Perpignan 6
75. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. An **VFR flight** is flying from Barcelona to Perpignan VOR at **3500ft over mean sea level** and is following a trajectory approximately depicted by an arrow in the chart (bottom right area). What is the name of the first airspace block in France that the pilot must contact compulsorily (neglect the elevation of the terrain along the French border)?
- TMA Perpignan 1
  - TMA Perpignan 2
  - TMA Perpignan 4
  - TMA Perpignan 6
76. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. An **VFR flight** is flying from Barcelona to Perpignan VOR at **6000ft over mean sea level** and is following a trajectory approximately depicted by an arrow in the chart (bottom right area). What is the name of the first airspace block in France that the pilot must contact compulsorily?
- TMA Perpignan 1
  - TMA Perpignan 2
  - TMA Perpignan 4
  - TMA Perpignan 6
77. Consider the VFR chart of the area of Perpignan, provided in annex to this exam. The elevation of the town *Millas* (at the West of Perpignan city) is 800ft above the mean sea level. The airspace class over this town at 1500ft QNH is
- Class A.

- (b) Class D.  
(c) Class E.  
(d) Class G.
78. When talking about traffic (or trajectory) synchronisation in terminal manoeuvring areas, which of the following list contains the best strategy from most efficient to less efficient?
- (a) Tromboning, radar vectoring, air holding.  
(b) Radar vectoring, tromboning, air holding.  
(c) Air holding, tromboning, radar vectoring.  
(d) Tromboning, air holding, radar vectoring.
79. Which is the principal inconvenience of radar vectoring?
- (a) It can only be used with procedural control.  
(b) It can only be used for area control (en-route).  
(c) The pilot loses the situational awareness of the aircraft trajectory in the near future (for example, the remaining distance to the runway threshold).  
(d) It increases significantly the workload of the pilot.
80. ICAO regulations classify the aircraft according to their wake turbulence as:
- (a) Heavy, Medium and Light.  
(b) A, B, C, D, E and H.  
(c) CAT-I, CAT-II, CAT-IIIa, CAT-IIIb and CAT IIIc.  
(d) APV-I and APV-II.
81. What is the most important element to operate in RVSM (reduced vertical separation minima) space?
- (a) An accurate 3D radar.  
(b) A certified altimeter.  
(c) Certified instrumental en-route charts.  
(d) A certified radio-navigation system.
82. Typically, the minimum vertical separation between two aircraft in RVSM airspace is:
- (a) 1000ft  
(b) 1000ft  
(c) 100ft  
(d) 10ft
83. 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.
84. Regarding the airborne separation assurance systems (ASAS) and airborne collision avoidance systems (ACAS), which of the following statements is correct?
- (a) Traffic collision avoidance system (TCAS) is a commercially available ACAS system.  
(b) ASAS serves as a last-resort safety net irrespective of any separation standards.  
(c) ACAS could be an enabler of the Free Flight concept.  
(d) All the answers are correct.
85. If a potential collision conflict is detected by an ACAS II/TCAS system, what type of advisory is triggered first?
- (a) A Resolution Advisory (RA) that includes the range of vertical speed at which the aircraft should be flown to avoid the thread aircraft.  
(b) A Resolution Advisory (RA) that includes the range of indicated airspeed at which the aircraft should be flown to avoid the thread aircraft.  
(c) A Traffic Advisory (TA) that includes the range of path angle at which the aircraft should be flown to avoid the thread aircraft.  
(d) A Traffic Advisory (TA), which is intended to assist the pilot in the visual acquisition of the conflicting aircraft.



Figure 1: Airfield traffic pattern

# INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)

## Mid Term Exam - Spring semester 2017

Correct answers

Pregunta	PERM. 1	PERM. 2	PERM. 3	PERM. 4
P 01	a	c	a	c
P 02	d	b	d	a
P 03	d	c	b	b
P 04	d	d	d	d
P 05	a	b	c	c
P 06	d	d	d	a
P 07	a	b	c	c
P 08	b	d	c	d
P 09	b	c	a	c
P 10	d	d	a	b
P 11	d	c	c	b
P 12	b	b	a	c
P 13	c	a	a	c
P 14	d	d	d	c
P 15	b	d	c	c
P 16	b	d	c	a
P 17	b	b	b	a
P 18	d	b	d	d
P 19	c	b	d	b
P 20	a	b	d	d
P 21	a	c	c	c
P 22	c	a	a	b
P 23	c	a	d	d
P 24	c	d	a	d
P 25	a	a	a	a
P 26	a	d	c	c
P 27	a	c	d	d
P 28	a	b	b	c
P 29	c	c	c	c
P 30	c	c	a	d
P 31	a	b	d	b
P 32	a	d	b	a
P 33	a	c	c	a
P 34	d	c	a	a
P 35	d	a	b	c
P 36	d	c	a	a
P 37	b	b	a	c
P 38	a	d	b	d
P 39	d	b	b	a
P 40	d	a	c	c
P 41	d	b	b	b
P 42	d	d	a	a
P 43	c	c	d	a
P 44	a	a	c	b
P 45	d	c	a	b
P 46	d	c	a	c
P 47	d	a	a	d
P 48	d	c	b	b

P 49	c	d	d	b
P 50	a	b	b	d
P 51	a	d	a	d
P 52	b	c	b	d
P 53	c	a	d	d
P 54	b	d	a	c
P 55	d	d	c	b
P 56	d	a	c	d
P 57	b	b	c	d
P 58	c	b	c	c
P 59	c	c	b	a
P 60	c	b	b	d
P 61	a	c	a	b
P 62	b	c	d	c
P 63	d	d	b	a
P 64	c	c	a	a
P 65	b	c	a	d
P 66	a	c	a	d
P 67	d	c	b	d
P 68	b	d	a	d
P 69	d	a	a	a
P 70	b	d	c	a
P 71	a	c	c	a
P 72	d	a	a	b
P 73	a	d	d	b
P 74	d	b	d	a
P 75	a	d	c	d
P 76	c	c	b	b
P 77	d	d	b	a
P 78	a	d	b	c
P 79	c	c	a	a
P 80	a	d	c	c
P 81	b	b	c	b
P 82	b	a	b	b
P 83	a	a	a	d
P 84	a	c	a	d
P 85	d	b	b	b