

INFRASTRUCTURES DEL TRANSPORT AERI (ITA)

Final Exam - Spring semester 2015

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 A:0 B:1 C:2 D:3

Use the **right** side numbering to mark your answers into the optical mark recognition sheet
Marking a case of the first answer line selects the answer, marking a case into the second line cancels it

Permutacio A

1. Air Navigation Services (ANS) are composed by:
 - (a) CNS, ATM, Search and Rescue, AIS, and Meteorology services.
 - (b) Alert services, flight information services and ATC.
 - (c) ASM, ATFM and ATS.
 - (d) AIP, NOTAM and CIRC.
2. 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.
3. 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.
4. Which of the following statements is *correct*:
 - (a) two or more existing airspace sectors can be collapsed into a single one if the air traffic demand decreases
 - (b) an airspace sector is continuously resized and shaped in real-time in order to adapt the air traffic demand to the workload of the air traffic controller
 - (c) at pre-tactical level (one day before operations for instance), the size and shape of sectors are defined to better accommodate their capacity to the forecast demand.
 - (d) all the answers are correct
5. 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.
6. During a descent, when the pilot reaches the transition level, he/she shall...
 - (a) change the altimeter setting from QNH to STD.
 - (b) change the altimeter setting from STD to QNH.
 - (c) change the altimeter setting from STD to QFE.
 - (d) do nothing in particular regarding the altimeter setting.
7. Imagine an airport with SIDs going into all directions and STARs coming from all directions, such as Barcelona airport. Which of the following measures, aiming to reduce the workload of air traffic controllers, is the more **strategic** one?
 - (a) Publish SIDs and STARs such that they cross at points where conflicting aircraft will be typically flying at very different altitudes.
 - (b) Apply an ATFM measure (regulation) in case the forecast demand exceeds the estimated capacity.
 - (c) Apply an ATFM measure (regulation) in case the actual demand exceeds the existing capacity.
 - (d) Give *direct-to* instructions (radar vectoring) to aircraft, by air traffic controllers, to avoid potential conflicts at crossing points.
8. Which of the following statements does NOT apply to the FUA concept?
 - (a) Airspace segregations are not longer permanent and they are based on real use during conveniently chosen time periods.
 - (b) Airspace should no longer be designated either military or civil.
 - (c) Airspace should be considered as one continuum and used flexibly on a day-to-day basis.
 - (d) All the other options apply to the FUA concept.
9. 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.
10. The main objective of air traffic flow management (ATFM) is:
 - (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.

11. 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.
12. 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 CFMU at any time when a demand/capacity imbalance exists.
13. In Europe, when a CTOT (Calculated take-off time) is given, the aircraft should take-off within the period:
 - (a) [CTOT, CTOT +10 min]
 - (b) [CTOT - 5min, CTOT +5 min]
 - (c) [CTOT - 5min, CTOT +10 min]
 - (d) [CTOT - 10min, CTOT +10 min]
14. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. A small table at the end of this test depicts the Estimated Time Over (ETO) the concerned sector for a given set of aircraft. What is the ATFM delay that would be assigned to AZA333 according to the computed assisted slot allocation (CASA) algorithm?
 - (a) No delay.
 - (b) 1 minute.
 - (c) 5 minutes.
 - (d) 10 minutes.
15. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. A small table at the end of this test depicts the Estimated Time Over (ETO) the concerned sector for a given set of aircraft. What is the ATFM delay that would be assigned to BAW444 according to the computed assisted slot allocation (CASA) algorithm?
 - (a) No delay.
 - (b) 1 minute.
 - (c) 5 minutes.
 - (d) 10 minutes.
16. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. A small table at the end of this test depicts the Estimated Time Over (ETO) the concerned sector for a given set of aircraft. If the first slot (slot #1) is given at 10h00, which aircraft will take slot #7?
 - (a) This slot will not be used by any aircraft.
 - (b) AFR022
 - (c) EZY078
 - (d) DAL077
17. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. A small table at the end of this test depicts the Estimated Time Over (ETO) the concerned sector for a given set of aircraft. What is the ATFM delay that would be assigned to AFR022 according to the computed assisted slot allocation (CASA) algorithm?
 - (a) No delay.
 - (b) 4 minutes.
 - (c) 10 minutes.
 - (d) 19 minutes.
18. Pre-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.
19. 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.
20. What is the primary information sent by aircraft operators to the CFMU?
 - (a) sector and airport capacities.
 - (b) aircraft flight plans.
 - (c) accurate weather data.
 - (d) slots and reroutings.
21. Mark the **wrong** statement:
 - (a) Alert Services are provided when Air Traffic Control is provided.
 - (b) Flight Information Services are provided when Air Traffic Control is provided.
 - (c) Alert Services are provided when Flight Information Services are provided.
 - (d) Air Traffic Control is provided when Flight Information Services are provided.
22. 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.
23. 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
24. What ATIS stands for? (when talking about the provision of ATS)
 - (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.
25. What is a VOLMET?
- A radio station broadcasting meteorological information of a certain area, including some relevant airports.
 - A radio station broadcasting meteorological information of a specific airport, indicating as well, the runway in service, the preferred IFR approach, the transition level and any other relevant information regarding airport operations.
 - A radio station broadcasting volcanic activity information in a certain area.
 - A special message issued by the International Volcanic Meteorology Office, regarding volcanic activity.
26. In which situation an air traffic controller shall give traffic information (information regarding collision hazards with other aircraft) to a VFR flight?
- When the aircraft is inside a CTR.
 - When the aircraft is inside a TMA.
 - When the aircraft is inside any airspace of class D.
 - All the answers are correct.
27. In airspace class C, separation services are provided...
- only between two conflicting VFR flights.
 - only between two conflicting IFR flights.
 - between two conflicting IFR flights, between an IFR conflicting with a VFR or SVFR, and between two SVFR flights.
 - to all IFR and VFR flights in the airspace.
28. A VFR flight is flying inside an airspace of class A. The air traffic controller is responsible to separate it from:
- other IFR flights.
 - other VFR flights.
 - other VFR and IFR flights.
 - a VFR flight cannot fly in airspace class A.
29. When procedural control is given to an approach procedure, then:
- the air traffic controller can give vectors to the aircraft to ensure separation.
 - the air traffic controller can clear only one aircraft per approach.
 - the pilots ensure separation by their own means (visual, ASAS, etc.).
 - the pilots must not consider any ACAS advisory.
30. North Atlantic oceanic airspace is...
- A free-route area.
 - A free-flight area.
 - A free-route area with an organised track system (called north Atlantic tracks).
 - An area with only RNAV airways.
31. 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.
32. What air traffic control dependency is typically in charge to issue start-up and push-back clearances?
- The en-route control.
 - The ground control.
 - The clearance delivery.
 - The approach control.
33. Typically, the minimum vertical separation between two aircraft in RVSM airspace is:
- 10000ft
 - 1000ft
 - 100ft
 - 10ft
34. When talking about the Medium Term Conflict Detection (MTCD) system, which of the following statements is **wrong**?
- The MTCD is the future version of the STCA, where conflicts will be detected much in advance.
 - 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.
 - The MTCD takes into account the flight plan data to detect conflicts.
 - The MTCD alerts the controller that a loss of separation is likely to occur within the limits of the current clearance.
35. How the letter *T* is spelled, according to the ICAO radio-telephony alphabet?
- Tango
 - Turtle
 - Tiger
 - Tanger
36. Which of the following statements is NOT a new concept/system regarding the **communications** in the future CNS systems for ATM?
- Reduced VHF frequency spacing (8.33 kHz).
 - Transponder Mode-S.
 - Aircraft Communications Addressing and Reporting System (ACARS).
 - Controller-Pilot DataLink Communications (CPDLC).
37. The reduction of the VHF channel spacing is crucial in the European civil aviation...
- to enhance the aircraft navigation accuracy.
 - to minimise the errors in radio telephone (RTF) communications.
 - to create a new set of pilot-controller communication messages.
 - because more frequency channels could be needed to increase the capacity of the overall system.
38. Which of the following statements is true?

- (a) An increment in the size of the sectors within a specified airspace volume can lead to a decrement in the capacity of this volume.
 - (b) The radio spectrum is considered an scarce resource.
 - (c) Controller-pilot communications are located in the VHF airband.
 - (d) All answers are correct.
39. 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.
40. Which transponder mode transmits only the transponder code of the aircraft?
- (a) Mode A.
 - (b) Mode B.
 - (c) Mode C.
 - (d) Mode S.
41. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam, the aircraft operator will publish for their crew a...
- (a) decision altitude.
 - (b) minimum descent altitude.
 - (c) obstacle clearance altitude.
 - (d) ILS minimum altitude.
42. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam, the initial approach segment for the procedure starting at GIR IAF is:
- (a) a dead-reckoning segment that depends on the aircraft speed.
 - (b) a racetrack procedure.
 - (c) an ILS path.
 - (d) a reversal procedure.
43. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam, the initial approach segment for the procedure starting at BANOL IAF is:
- (a) a VOR radial.
 - (b) a racetrack procedure.
 - (c) an ILS path.
 - (d) a reversal procedure.
44. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam, the final approach segment is:
- (a) a VOR radial.
 - (b) a racetrack procedure.
 - (c) an ILS path.
 - (d) a reversal procedure.
45. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam:
- (a) It is a straight-in and a precision approach.
 - (b) It is a straight-in and a non precision approach.
 - (c) It is a circling and a precision approach.
 - (d) It is a circling and a non precision approach.
46. Regarding the Instrumental Approach Chart (IAC) **Girona ILS Z RWY20**, annexed to this exam, the radionavigation aid labeled as *IGN* is a:
- (a) Localizer.
 - (b) VOR/DME.
 - (c) DME.
 - (d) Locator.
47. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the aircraft operator will publish for their crew...
- (a) a decision altitude.
 - (b) a minimum descent altitude.
 - (c) an obstacle clearance altitude.
 - (d) a minimum decision altitude.
48. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the missed approach segment is mainly composed by:
- (a) two VOR radials.
 - (b) a VOR radial followed by a dead-reckoning legs.
 - (c) a VOR radial followed by a DME arc.
 - (d) two dead-reckoning legs.
49. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, imagine an aircraft arriving at MHN IAF with heading 230°. Imagine the ATC instructs the aircraft to execute the holding pattern. In this case, the aircraft will enter the hold with...
- (a) a racetrack entry procedure.
 - (b) a direct entry procedure.
 - (c) an offset entry procedure.
 - (d) a parallel entry procedure.
50. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam...
- (a) it is a CAT-I approach.
 - (b) it is an APV approach.
 - (c) it is a non precision approach.
 - (d) it is a circling to approach.
51. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the radionavigation aid labelled as *MHN* is a:
- (a) VOR/DME.
 - (b) ILS/DME.
 - (c) DME.
 - (d) NDB.
52. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the initial approach segment for the procedure starting at MHN IAF is...
- (a) a holding procedure.
 - (b) a racetrack procedure.
 - (c) a VOR radial.

- (d) a dead-reckoning radial.
53. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the MAPt is defined as:
- (a) a radionavigation facility.
 - (b) a DME distance.
 - (c) a VOR radial.
 - (d) the intersection of two VOR radials.
54. Regarding the Instrumental Approach Chart (IAC) **Menorca VOR**, annexed to this exam, the intermediate segment for the procedure starting at DONAV is:
- (a) a dead-reckoning leg.
 - (b) an arc DME.
 - (c) a VOR radial.
 - (d) a NDB course.
55. ICAO regulations classify the aircraft according to their speed at the threshold 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.
56. An APV is a:
- (a) a precision approach with vertical guidance.
 - (b) an approach with vertical guidance but with navigation performances worse than precision approaches.
 - (c) an approach procedure where only vertical guidance is provided (but not lateral).
 - (d) an approach procedure where only lateral guidance is provided (but not vertical).
57. Which of the following statements is correct?
- (a) APV and PA provide vertical and lateral guidance, while NPA provide only lateral guidance.
 - (b) NPA and PA provide vertical and lateral guidance, while APV provide only lateral guidance.
 - (c) PA provide vertical and lateral guidance, NPA provide only lateral guidance and APV are non-guided (visual) approaches.
 - (d) APV provide vertical and lateral guidance, PA provide only lateral guidance and NPA are non-guided (visual) approaches.
58. An approach procedure only using a Localiser as principal guidance system in the final approach segment is...
- (a) a precision approach.
 - (b) a non-precision approach.
 - (c) an APV approach.
 - (d) a Localiser cannot be used as principal guidance system in the final approach segment.
59. In what situation an approach procedure cannot be a straight-in approach?
- (a) when the angular difference between the final track alignment and the runway track exceeds a given value*
 - (b) when the final descent gradient exceeds a given value*
 - (c) both answers marked with a (*) are correct.
 - (d) in case the procedure is a non-precision approach.
60. 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.
61. The OCA...
- (a) is also known as the minima-minima.
 - (b) is the minimum altitude in the final approach segment regarding obstacle clearance.
 - (c) is the minimum visibility required for an instrumental approach procedure.
 - (d) is a synonym of minimum descent altitude.
62. 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.
63. Which of the following statements is *not correct*?
- (a) when reaching the MDA, if the aircraft crew cannot see the landing runway they must immediately initiate the missed approach procedure.
 - (b) when reaching the DA, if the aircraft crew cannot see the landing runway they must immediately initiate the missed approach procedure.
 - (c) when reaching the MAPt, if the aircraft crew cannot see the landing runway they must immediately initiate the missed approach procedure.
 - (d) for the same airport, the MDA for a circling to approach procedure would be typically higher than the MDA for an straight-in approach procedure.
64. 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.
65. 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.
66. When executing an approach procedure, in which case the pilot can proceed below the published MDA?
- (a) only if executing a precision approach procedure.
 - (b) only when the MAPt has been overflown.

- (c) only when the pilot has visual contact with the runway and decides to land.
- (d) only when the FAF has been overflown.
67. Given a specific runway, which of the approaches will lead (in general) to the lowest MDA or DA?
- (a) a VOR circling to approach approach procedure.
- (b) a VOR straight-in approach approach procedure.
- (c) a ILS CAT-I straight-in approach approach procedure.
- (d) a ILS CAT-II straight-in approach approach procedure.
68. In which case you will find a non-precision approach procedure with no FAF?
- (a) in case the approach can only be executed as a circling to approach.
- (b) in case the initial segment consists in a reversal procedure and there is no intermediate segment.
- (c) in case the glide slope is not available.
- (d) in case there is no final segment.
69. 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.
70. 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.
71. 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?
- (a) GIR – N727 – SARGO – A67 – MHN
- (b) GIR – BGR – A67 – SARGO – MHN
- (c) BGR – A67 – SARGO
- (d) None of the other answers is correct.
72. 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?
- (a) MHN – A67 – BGR – H110 – GIR
- (b) SARGO – N727 – GIR
- (c) SARGO – N727 – SALON – A27 – BGR
- (d) None of the other answers is correct.
73. Which type of fix is OLOTI, which appears in the SID chart for RWY20 in Girona airport?
- (a) an intersection.
- (b) a VOR.
- (c) a RNAV waypoint.
- (d) none of the other answers is correct.
74. Regarding the SID MAMUK1H for RWY20 at Girona airport, which of the following statements is correct?
- (a) All aircraft shall be at FL75 or above when overflying MAMUK.
- (b) All aircraft shall be at FL75 or below when overflying MAMUK.
- (c) All aircraft shall be at strictly below FL75 when overflying MAMUK.
- (d) All aircraft shall be at FL75 when overflying MAMUK.
75. Regarding the legs that compose the BGR3H SID for RWY20 at Girona airport, which of the following options is correct?
- (a) The SID is formed by the succession of three consecutive VOR radials.
- (b) The SID is formed by one VOR radial, followed by a dead-reckoning leg, followed by another VOR radial.
- (c) The SID is formed by a dead-reckoning leg, followed by a DME arc, followed by a VOR radial.
- (d) The SID is formed by a VOR radial, followed by a DME arc, followed by a VOR radial.
76. Imagine an aircraft executing the KABRE1F arrival procedure (see chart annexed to this exam) for runway 19R at Menorca when the ATC instructs the pilot to hold at the IAF. In this case, the aircraft will enter the hold with...
- (a) a racetrack entry procedure.
- (b) a direct entry procedure.
- (c) an offset entry procedure.
- (d) a parallel entry procedure.
77. Regarding the STARs chart for Girona RWY20, annexed to this exam, the radionavigation aid labelled as *GRN* is a:
- (a) Localizer.
- (b) VOR/DME.
- (c) DME.
- (d) NDB.
78. 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.
79. In a conventional IFR holding, which leg is typically a dead reckoning leg?
- (a) The outbound leg.
- (b) The inbound leg.
- (c) The inbound and the outbound legs.
- (d) Only the two turns are executed in dead reckoning.
80. According to the small Figure at the end of this test, depicting an airfield traffic pattern...
- (a) Turns in the pattern are always to the right.
- (b) Turns in the pattern are always to the left.
- (c) Turns in the pattern are to the right for runway 09 and to the left for runway 27.

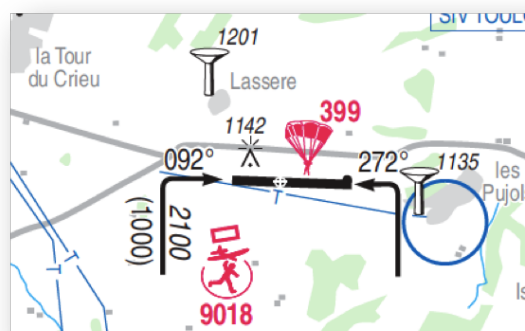
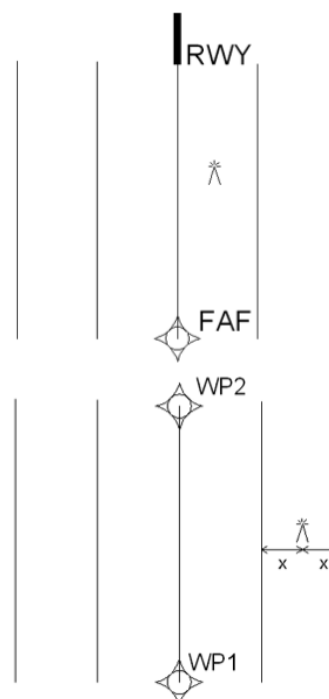
- (d) Turns in the pattern are to the left for runway 09 and to the right for runway 27.
81. Imagine that we want to publish RNAV DME/DME STARs at Girona airport. Regarding the STARs chart for runway 20 at Girona airport given in annex to this exam, and imagining that BANOL fix is converted to a RNAV waypoint, which of the following statements is correct?
- If SLL and BGR DMEs are out of service the procedure to BANOL can not be flown by a DME/DME RNAV system.
 - If CLE and GIR DMEs are out of service the procedure to BANOL can not be flown by a DME/DME RNAV system.
 - If GIR DME is out of service the procedure to BANOL can not be flown by a DME/DME RNAV system.
 - None of them are correct.
82. Who is *responsible* to check that the positioning geometry is good enough to fly an RNAV DME/DME procedure?
- the procedure designer.
 - the air traffic controller.
 - the pilot in command.
 - the DME receiver.
83. Who is *responsible* to check that the positioning geometry is good enough to fly an RNAV GNSS procedure?
- the procedure designer.
 - the air traffic controller.
 - the pilot in command.
 - the GNSS receiver.
84. Who decides if a IFR procedure is RNAV or conventional?
- The aircraft operator.
 - The air traffic controller.
 - The procedure designer.
 - The aircraft manufacturer.
85. The *free route* concept allows...
- 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.
 - the procedure designer to design guided segments joining two points without the need for overflying specific ground facilities.
 - 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.
 - all the answers are correct.
86. The *free flight* concept allows...
- 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.
 - the procedure designer to design guided segments joining two points without the need for overflying specific ground facilities.
 - 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.
 - all the answers are correct.
87. Which of the following systems can provide a RNAV functionality?
- VOR/DME.
 - DME/DME.
 - GNSS.
 - all the answers are correct.
88. Which of the following legs could not be an RNAV leg?
- a fixed straight track between two fixes.
 - a fixed radius track between two fixes.
 - a VOR radial.
 - all of them could be RNAV legs.
89. 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.
 - It 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.
90. 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.
91. 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.
 - Class D.
 - Class E.
 - Class G.
92. Which of the following navigation specification you have used for designing the procedure in the WP4 of ITA?
- RNAV 1
 - RNAV 2
 - RNP 1
 - RNP APCH
93. Which of the following statements about the MOC is true?
- The MOC is the **Maximum** Obstacle Clearance altitude with respect to the mean sea level.
 - The MOC is the **Maximum** Obstacle Clearance height with respect to the airport elevation.

- (c) The MOC is the **Minimum** Obstacle Clearance height with respect to the airport elevation.
- (d) None of the other options is correct.
94. When designing IFR procedures, the wind spirals are used for:
- computing the TAS given the IAS.
 - drawing the protection areas in turns (*).
 - estimating the bank angle in turns (*).
 - The answers marked with (*) are correct.
95. Which of the following statements, regarding the Terminal Arrival Altitudes (TAA), is true?
- TAA allow the pilot to proceed directly from en-route to the approach without flying a prescribed STAR.
 - TAA indicate the minimum safe altitude to be considered by the pilots before arriving at the IAF, if executing an omnidirectional arrival.
 - TAA are only published in RNAV approach procedures.
 - All the answers are correct.
96. The minimum distance between two RNAV waypoints in an approach procedure, when a turn is executed in one (or both) waypoint(s)...
- does not depend on the track change.
 - shall take into account the minimum stabilization distances.
 - does not depend on the waypoint type (*fly-by* or *fly-over*).
 - all the answers are correct.
97. Consider the small figure at the end of this test with a leg between the FAF and the RWY. What would be the OCA/H assuming a non-precision approach procedure, with no significant obstacles in the missed approach segment, a MOC of 250 ft for the final approach segment, a runway threshold elevation of 300 ft and an elevation of 500 ft for the most significant obstacle (as depicted in the figure)?
- OCA=750ft and OCH=450ft.
 - OCA=1050ft and OCH=750ft.
 - OCA=1050ft and OCH=250ft.
 - OCA=750ft and OCH=250ft.
98. Consider the small figure at the end of this test with a leg between WP1 and WP2. Which is the minimum flight altitude between the two waypoints assuming a MOC of 1000 ft, a runway threshold elevation of 500 ft and an elevation of 3000 ft of the most significant obstacle (as depicted in the figure)?
- 3000 ft
 - 3500 ft
 - 4000 ft
 - 4500 ft
99. What is the correct naming for the procedure designed by your group in the WP4 (being xx the runway id)?
- GPS-NPA RWYxx
 - GPS-APV RWYxx
 - RNAV (DME/DME) RWYxx

(d) RNAV (GNSS) RWYxx

100. When computing the protection areas of a turn (during the design of an instrumental approach procedure) how are the uncertainties of the **positioning system** taken into account?
- By considering the XTT and ATT values when computing the earliest and latest points of the turn.
 - By considering the pilot reaction time when computing the earliest and latest points of the turn.
 - By considering the RNAV stabilisation distances when computing the earliest and latest points of the turn.
 - All the answers are correct.

Flight	ETO	Flight	ETO
BAW123	10:01	DAL077	10:24
IBE222	10:06	BAW444	10:40
RYR069	10:07	AFR022	11:02
EZY078	10:11	AZA333	11:05





D

C

D.N.I.

DATA

NOM I COGNOMS

ASSIGNATURA

CURS GRUP

D.N.I.									
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

CENTRE	ASSIGNATURA	PARCIAL	PERMUT	GRUP
0 0 0	0 0 0 0 0	0 0	A	0 0
1 1 1	1 1 1 1 1	1 1	1	1 1
2 2 2	2 2 2 2 2	2 2	2	2 2
3 3 3	3 3 3 3 3	3 3	3	3 3
4 4 4	4 4 4 4 4	4 4	4	4 4
5 5 5	5 5 5 5 5	5 5	5	5 5
6 6 6	6 6 6 6 6	6 6	6	6 6
7 7 7	7 7 7 7 7	7 7	7	7 7
8 8 8	8 8 8 8 8	8 8	8	8 8
9 9 9	9 9 9 9 9	9 9	9	9 9

0	0	0	0	0	0	0	0	0	0
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4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

1	A B C D E	1	A B C D E	81	A B C D E	81	A B C D E
2	A B C D E	21	A B C D E	82	A B C D E	82	A B C D E
3	A B C D E	22	A B C D E	83	A B C D E	83	A B C D E
4	A B C D E	23	A B C D E	84	A B C D E	84	A B C D E
5	A B C D E	24	A B C D E	85	A B C D E	85	A B C D E
6	A B C D E	25	A B C D E	86	A B C D E	86	A B C D E
7	A B C D E	26	A B C D E	87	A B C D E	87	A B C D E
8	A B C D E	27	A B C D E	88	A B C D E	88	A B C D E
9	A B C D E	28	A B C D E	89	A B C D E	89	A B C D E
10	A B C D E	29	A B C D E	90	A B C D E	90	A B C D E
11	A B C D E	30	A B C D E	91	A B C D E	91	A B C D E
12	A B C D E	31	A B C D E	92	A B C D E	92	A B C D E
13	A B C D E	32	A B C D E	93	A B C D E	93	A B C D E
14	A B C D E	33	A B C D E	94	A B C D E	94	A B C D E
15	A B C D E	34	A B C D E	95	A B C D E	95	A B C D E
16	A B C D E	35	A B C D E	96	A B C D E	96	A B C D E
17	A B C D E	36	A B C D E	97	A B C D E	97	A B C D E
18	A B C D E	37	A B C D E	98	A B C D E	98	A B C D E
19	A B C D E	38	A B C D E	99	A B C D E	99	A B C D E
20	A B C D E	39	A B C D E	100	A B C D E	100	A B C D E
21	A B C D E	40	A B C D E				
22	A B C D E						
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100	A B C D E						

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