Infrastructures del Transport Aeri

Name:

Final exam - Fall semester 2014

Short questions: answer them with one word or one sentence in the space provided.
Correct answer: +1 point – Incorrect answer: -1point – Blank answer: 0 points.

Give **one (1)** example of ATM **capacity indicator**

Give **the name** or just the acronym of **two (2)** different **aircraft manufacturers**

What is the acronym of the **digital datalink system** for transmission of short messages between aircraft and ground stations?

Which system provides more navigation **accuracy**: SBAS or ABAS?

Beside GPS signals, which system **does not require the input** of external navigation information: GBAS or ABAS?

When talking about a navigation system, what **performance metric** measures the ability of a system to perform its function without unpredicted interruptions during the intended operation?

The capability of a navigation system to provide timely **warnings** when it should be not used is called:

Give **three** examples of different ways to gather information relative to aircraft positions in ATC.

IFR flights are always under air traffic control. True or false?

ACAS II/TCAS Resolution Advisories (RA) are always specified in terms of heading changes. True or false?

Enumerate the **four** unknowns in the following GPS observation equation from the receiver point of view: $p_i = \sqrt{(x_i - x)^2 + (y_i - y)^2 + (z_i - z)^2} + T \cdot c_0$

In an instrumental approach chart, the visibility measured in the runway is given by **VIS** or **RVR**?

Ground holding and air holding can be used as ATFM initiatives. Why is ground holding in general **preferred**?

What is typically **bigger**, a TMA or a ATZ?

Short questions: answer them with one or two sentences in the space provided.
Correct answer: +1.5 points – Incorrect answer or blank answer: 0 points

How is it ensured that the pilot will not collide with the terrain in bad visibility conditions during a **non-precision approach?**

Cite at least **four (4)** simplifications or assumptions that were applied to the ITA ATC laboratory simulations if compared with respect to the real world operations performed at Barcelona air control centre.

You are controlling an en-route sector of Barcelona UIR just above Barcelona TMA. BAW007 is a B737 coming from Manchester with destination Barcelona airport. It is now at FL384 and descending. Its planned entry level into your sector is FL320, its exit flight level is at FL220. BAW007 is still with Bordeaux control and it is expected to be **transferred** to your sector **in 5 minutes** approximately.
1- Enumerate **three (3)** different actions, and **with chronological order,** that the **planner controller** will do regarding this traffic within the next 15 minutes approximately.
2- Enumerate **three (3)** different actions, and **with chronological order,** that the **executer controller** will do regarding this traffic within the next 15 minutes approximately.

INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)
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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. The letters of agreement (LoA) define de conditions for:
   (a) The coordination between the CFMU and the ATS centres to manage departure slots.
   (b) The coordination between IFR flights and the ATS.
   (c) The coordination between adjacent sectors.
   (d) The correlation between the transponder code and the flight plan.

2. 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) CTO = ETOT + Trip Time
   (b) CTO = COBT + Taxi Time + Trip Time
   (c) CTO = EOBT + Ground Delay + Taxi Time
   (d) CTO = ETO

3. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam, the aircraft operator will publish for their crew...
   (a) a decision altitude.
   (b) an obstacle clearance altitude.
   (c) a NDB altitude.
   (d) a minimum descent altitude.

4. Which of the following statements is true?
   (a) All answers are correct.
   (b) Controller-pilot communications are located in the VHF airband.
   (c) The radio spectrum is considered an scarce resource.
   (d) An increment in the size of the sectors within a specified airspace volume can lead to a decrement in the capacity of this volume.

5. Regarding the propagation properties of HF and VHF airbands which of the following statements is NOT correct?
   (a) VHF radio waves refract in the atmosphere and, therefore, the interference of the overall system is increased.
   (b) In order to avoid mutual interference, two close VHF transmitters must use different frequencies.
   (c) HF airband is refracted back to the Earth, thus enabling long range radio communications.
   (d) The VHF spectrum is a scarce resource but it is used in air navigation for several purposes.

6. Which of the following controlled airspace zones is sized to accommodate all the aircraft flying in an aerodrome traffic pattern (downwind, base, final)?
   (a) The ATZ.
   (b) The TMA.
   (c) The CTA.
   (d) The CTR.

7. The control in charge of realise the sequencing and merging of aircraft arriving at a busy airport is...
   (a) the tower control.
   (b) the area control.
   (c) the approach control.
   (d) the ground control.

8. Primary systems of the CFMU are:
   (a) The integrated initial flight plan processing system (IFPS). And The TACTICAL system (TACT/ ETFMS).
   (b) The archive system (ARC), the IFPS validation system (IFPUV) and the pre-tactical system (PREDICT).
   (c) All the answers are correct.
   (d) The ATS environment system (ENV) and the repetitive flight plan system (RPL).

9. Strategic ATFM should:
   (a) Balance flights next day with available ATC Capacity.
   (b) Match long-term demand and needed ATC capacity.
   (c) Define the national airspace policy and predetermined airspace structures.
   (d) Manage current flights with existing ATC capacity.

10. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam, the radionavigation aid labeled as *PAM* is a:
    (a) Locator.
    (b) VOR/DME.
    (c) NDB.
    (d) DME.

11. Regarding the ITA ATC laboratory simulations, in how many sectors was the Barcelona UIR divided?
    (a) 2: CAT-W and CAT-E
    (b) 4: CAT-N, CAT-S, CAT-W and CAT-E
    (c) 2: BCN and GRN
    (d) 3: PON, MED and LLE

12. An IFR aircraft is flying in RVSM airspace with heading 310^o, following the *odd-even* rule to assign a flight level, a possible flight level for the flight could be:

(a) FL325

(b) FL330

(c) FL320

(d) FL335

13. Regarding Figure 2, what is the intermediate segment of the approach to runway 11?

(a) the leg with course 343^o.

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

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

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

14. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam, imagine an aircraft is instructed to hold at PPN after executing the missed approach procedure. The aircraft will enter the hold with...

(a) a racetrack entry procedure.

(b) an offset entry procedure.

(c) a direct entry procedure.

(d) a parallel entry procedure.

15. Which is the correct order of these types of airspace/areas if we sort them **from fully segregated to non-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) RCA, PCA, TRA, TSA.

(d) TSA, TRA, PCA, RCA.

16. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam...

(a) it is a CAT-I approach.

(b) it is a precision approach.

(c) it is an APV approach.

(d) it is a circling to approach.

17. An ILS approach is generally a:

(a) Circling to approach and a precision approach.

(b) Straight-in approach and a precision approach.

(c) Straight-in approach and a non precision approach.

(d) Circling to approach and a non precision approach.

18. Regarding the Instrumental Approach Chart (IAC) **Anchorage ILS RWY 7R ILS**, annexed to this exam, the decision height published is:

(a) 600 ft.

(b) 0 ft.

(c) 700 ft.

(d) 130 ft.

19. Regarding the Instrumental Approach Chart (IAC) **Anchorage ILS RWY 7R ILS**, annexed to this exam, once the aircraft is stablished in the ILS (and assuming no wind conditions) the heading of the aircraft will be approximately:

(a) 089

(b) 249

(c) 069

(d) 269

20. Tactical ATFM should:

(a) Define the national airspace policy and predetermined airspace structures.

(b) Balance flights next day with available ATC Capacity.

(c) Match long-term demand and needed ATC capacity.

(d) Manage current flights with existing ATC capacity.

21. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. Table **??** 1 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) 4 minutes.

(b) No delay.

(c) 19 minutes.

(d) 10 minutes.

22. An airspace sector has been regulated and its maximum capacity is set to 6 aircraft per hour. The table below 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 EZY078 according to the computed assisted slot allocation (CASA) algorithm?

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

(a) 4 minutes.

(b) No delay.

(c) 19 minutes.

(d) 1 minute.

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

(a) 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.

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

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

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

24. A VFR flight is flying inside an airspace of class B. The air traffic controller is responsible to separate it from:

(a) other VFR flights.

(b) other VFR and IFR flights.

(c) other IFR flights.

(d) the controller has no separation responsibility with VFR flights in airspace class B.

25. Pre-tactial ATFM should:

(a) Define the national airspace policy and predetermined airspace structures.

(b) Manage current flights with existing ATC capacity.

(c) Match long-term demand and needed ATC capacity.

(d) Balance flights next day with available ATC Capacity.

26. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam, the approach starts at:

    (a) The intersection of radial 207^o with the arc of 14.0NM of PPN VOR/DME.

    (b) The intersection of radial 207^o of PPN VOR/DME with the arc of 14.0NM of PAP VOR/DME.

    (c) The intersection of radial 210^o with the arc of 10.0NM of PAP VOR/DME.

    (d) The intersection of radial 207^o with the arc of 20.5NM of PPN VOR/DME.

27. An approach procedure using a Localiser as principal guidance system in the final approach segment is...

    (a) a non-precision approach.

    (b) an APV approach.

    (c) a Localiser cannot be used as principal guidance system in the final approach segment.

    (d) a precision approach.

28. Mark the **wrong** statement:

    (a) Flight Information Services are provided when Air Traffic Control is provided.

    (b) Alert Services are provided when Air Traffic Control is provided.

    (c) Flight Information Services are provided when Alert Services are provided.

    (d) Alert Services are provided when Flight Information Services are provided.

29. Regarding Figure 2, what is the final approach segment to runway 11?

    (a) a Locator course.

    (b) an NDB course.

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

    (d) a dead reckoning leg.

30. Who is responsible to publish the OCA/H in an instrumental approach chart (IAC)?

    (a) The aircraft operator.

    (b) The appropriate ANS national administration.

    (c) Eurocontrol.

    (d) The aircraft manufacturer.

31. Which of the following CFMU systems can provide historical data to generate future possible demand scenarios?

    (a) The ENV

    (b) The EAD

    (c) The DWH

    (d) The RCAT

32. A VFR flight is flying inside an airspace of class D. The air traffic controller is responsible to separate it from:

    (a) other VFR and IFR flights.

    (b) other IFR flights.

    (c) the controller has no separation responsibility with VFR flights in airspace class D.

    (d) other VFR flights.

33. Regarding the figure 1, the heading of the two aricraft is:

    (a) approximately 010

    (b) approximately 000

    (c) approximately 100

    (d) approximately 190

34. Who is the responsible to coordinate the transfer of an aircraft which is not going to respect the Letter of Agreement (LoA) between two ATC sectors?

    (a) The strategic controller

    (b) The ATC supervisor.

    (c) The executer controller.

    (d) The tactical controller.

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

    (a) The aircraft operator.

    (b) The air traffic controller.

    (c) The pilot in command.

    (d) The procedure designer.

36. Regarding the flexible use of airspace (FUA) concept, the third level (tactical level) deals with:

    (a) The day-to-day allocation of airspace, according to users requirements.

    (b) The definition of national airspace policy and predetermined airspace structures.

    (c) The real-time use and management of available airspace.

    (d) The definition of the sectorisation and capacity of the military airways.

37. Which is the principal method of navigation for VFR flights?

    (a) radar vectoring.

    (b) RNAV.

    (c) VOR radials and NDB courses.

    (d) dead reckoning.

38. Which of the following information items is not typically given by a flight information service?

    (a) Minimum descent altitudes for a specific approach.

    (b) Traffic informaiton assisting the pilot to avoid collision conflicts.

    (c) Volcanic activity in a certain area.

    (d) The frequency of a specific radionavigation aid.

39. Which of the following communication systems / airbands can be used in oceanic areas?

    (a) VHF.

    (b) None of the answers are correct.

    (c) HF.

    (d) UHF.

40. A functional airspace block (FAB) is:

    (a) a portion of flexible used airspace (FUA)

    (b) a restricted or prohibited volume of airspace

    (c) an initiative of the single European sky that establishes airspace blocks regardless of the different state boundaries

    (d) a synonym of airspace sector

41. Which of the following statements is correct?

(a) NPA and PA approaches provide vertical and lateral guidance, while APV approaches provide only lateral guidance.

(b) APV approaches provide vertical and lateral guidance, PA approaches provide only lateral guidance and NPA are non-guided (visual) approaches.

(c) PA approaches provide vertical and lateral guidance, NPA approaches provide only lateral guidance and APV are non-guided (visual) approaches.

(d) APV and PA approaches provide vertical and lateral guidance, while NPA approaches provide only lateral guidance.

42. Regarding Figure 2, the initial approach segment to runway 11, starting at AST IAF is

(a) a 45/180 procedure turn.

(b) a racetrack procedure followed by a 45/180 procedure turn.

(c) a racetrack procedure.

(d) an NDB course.

43. Regarding Figure 2, the radionavigation aid labeled as AV is

(a) a Localiser.

(b) a VOR.

(c) a Locator.

(d) an NDB.

44. Which of the following controlled airspace zones is sized to accommodate, approximately, all the aircraft flying standard terminal arrival routes?

(a) The CTA.

(b) The CTR.

(c) The TMA.

(d) The ATZ.

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

(a) The approach control.

(b) The en-route control.

(c) The clearance delivery.

(d) The ground control.

46. Regarding Figure 2, the initial approach segment to runway 11, starting at AV IAF is

(a) a racetrack procedure followed by an NDB course.

(b) a racetrack procedure.

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

(d) there is no initial approach segment for the approach starting at this IAF.

47. Regarding Figure 2, how is the FAF of the approach to runway 11 defined?

(a) there is no FAF in this approach.

(b) above AV.

(c) above AST.

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

48. Inside a CTR, the following ATS services are provided for an IFR flight:

(a) Air Traffic Control Services.

(b) Alert Services.

(c) All the answers are correct.

(d) Flight Information Services.

49. Regarding the Instrumental Approach Chart (IAC) **Anchorage ILS RWY 7R ILS**, annexed to this exam, the radionavigation aid labeled as *I-ANC* is a:

(a) Localizer.

(b) VOR/DME.

(c) DME.

(d) NDB.

50. Which of the following CFMU systems deals with the flight plans sent by aircraft operators?

(a) The ENV

(b) The IFPS

(c) The RCAT

(d) The ETFMS

51. Standard airfield traffic patterns are...

(a) with turns to the right and at 1000 ft above the aerodrome elevation.

(b) with turns to the left and at 1000 ft above the aerodrome elevation.

(c) with turns to the right and at 2000 ft above the aerodrome elevation.

(d) with turns to the left and at 2000 ft above the aerodrome elevation.

52. What was the sector CAT-W in the ITA ATC laboratory simulations?

(a) a FIR en-route sector.

(b) a UIR en-route sector.

(c) a TMA approach sector.

(d) a CTR sector in Barcelona for the West plan configuration.

53. In a VOR approach procedure, the decision to land or to execute a missed approach must be taken, at the latest, when...

(a) reaching the OCA.

(b) reaching the DA.

(c) reaching the MDA.

(d) reaching the MAPt.

54. Regarding Figure 2, the missed approach segment is composed by:

(a) the NDB course 047 followed by a direct NDB course.

(b) two dead reckoning legs.

(c) the NDB course 047 followed by a dead reckoning leg.

(d) the NDB course 047.

55. Who is *responsible* to check that the positioning geometry is good enough to fly an RNAV DME/DME procedure?

(a) the air traffic controller.

(b) the procedure designer.

(c) the pilot in command.

(d) the DME receiver.

56. Regarding the Instrumental Approach Chart (IAC) **Pamplona VOR B**, annexed to this exam, the missed approach segment is mainly:

(a) mainly composed by a NDB course and a VOR radial.

(b) mainly composed by a NDB course and dead-reckoning leg.

(c) mainly composed by a dead-reckoning leg and a VOR radial.

(d) mainly composed by two VOR radials.

57. When talking about the Short Term Conflict Alert (STCA) system, which of the following statements **is wrong**?

(a) The STCA function alerts the controller to potential aircraft to aircraft collisions prior to loss of separation.

(b) Future aircraft positions are estimations based on the velocity vectors of the aircraft.

(c) The STCA does not take into account the possible clearances given to the aircraft.

(d) The STCA communicates with the on-board TCAS and when a TCAS alarm triggers, also does the STCA alarm and vice-versa.

58. An APV is a:

(a) a RNAV non precision approach.

(b) a visual approach.

(c) a circling to approach.

(d) an approach with vertical guidance but with navigation performances worse than precision approaches.

59. Which physical transmission layer is NOT used by the ACARS?

(a) Very high frequency (VHF) subnetwork.

(b) CPDLC subnetwork.

(c) Satellite communication.

(d) High Frequency (HF) subnetwork.

60. What is a NOTAM?

(a) It is a notice or advisory that contains useful information for pilots or potential hazards along a flight route or at a location, such an airport.

(b) It is a type of airspace without air traffic control.

(c) It is the name that receives the aeronautical radiotelephony alphabet.

(d) It is a collision hazard information typically given by a flight information service to a pilot.

61. Which of the following transponder codes indicates *unlawful interference*?

(a) 7700.

(b) 7600.

(c) None of the other answers is correct.

(d) 7500.

62. Regarding the ITA ATC laboratory simulations, in how many sectors was the Barcelona TMA airspace divided?

(a) 3: PON, MED and LLE

(b) 2: BCN and GRN

(c) 2: CAT-W and CAT-E

(d) 4: CAT-N, CAT-S, CAT-W and CAT-E

63. If a potential collision conflict is detected by an ACAS II/TCAS system, what type of advisory is triggered first?

(a) A Traffic Advisory (TA) that includes the range of path angle at which the aircraft should be flown to avoid the thread aircraft.

(b) A Resolution Advisory (RA) that includes the range of vertical speed at which the aircraft should be flown to avoid the thread aircraft.

(c) A Traffic Advisory (TA) which is intended to assist the pilot in the visual acquisition of the conflicting aircraft.

(d) A Resolution Advisory (RA) that includes the range of indicated airspeed at which the aircraft should be flown to avoid the thread aircraft.

64. Regarding the figure 1, 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 filed flight plan.

(b) The black line gives a visual information to the controller regarding the vertical speed of the aircraft.

(c) The minimum separation distance between two aircraft.

(d) The estimated position of the aircraft, after a given period of time, based on the current aircraft heading and speed.

65. Which of the following options is correct, when talking about an ILS?

(a) the localiser and the glidslope are ground-based systems that send different navigation signals.

(b) the localiser and the glidslope are ground-based systems that send the same redundant navigation signal.

(c) the glideslope is the ground-based system and the localiser is the on-board system, both sending the appropiate navigation signals.

(d) the localiser is the ground-based system and the transponder is the on-board system, both sending the appropiate navigation signals.

66. A secondary objective of air traffic flow management (ATFM) is...

(a) not only slot allocation but also optimization of the network capacity.

(b) all the answers are correct.

(c) to monitor the network operations.

(d) to maximize the use of available airspace resources and coordination among them.

67. Which of the following procedures the final approach segment can start at the *end of turn*?

(a) Only in a non-precision approach.

(b) Only in an APV approach.

(c) Only in a precision approach.

(d) The final approach segment can never start at the *end of turn*.

68. ICAO regulations classify the aircraft according to their speed at the threshold as:

(a) CAT-I, CAT-II, CAT-IIIa, CAT-IIIb and CAT IIIc.

(b) APV-I and APV-II.

(c) A, B, C, D, E and H.

(d) Heavy, Medium and Light.

69. Which is NOT correct, according to the ICAO radio-telephony alphabet?

(a) *G*: Golf

(b) *W*: Whiskey

(c) *X*: X-trem

(d) *H*: Hotel

70. Regarding Figure 2, how is the MAPt of the approach to runway 11 defined?

    (a) an NDB.

    (b) a Locator.

    (c) the threshold of runway 11.

    (d) a Localiser.

71. The MDA...

    (a) is the minimum altitude to overfly the runway threshold, just before landing.

    (b) is the minimum altitude for circling approaches, while the DA is the minimum altitude for straight-in approaches.

    (c) None of the other answers are correct.

    (d) is the altitude that once reached the pilot must decide whether to continue or abort a non-precision approach.

72. Imagine an ILS straight-in approach to an airport. The guidance of the intermediate segment...

    (a) must always be from a localiser.

    (b) must always be from an ILS glide path.

    (c) must always be from a localiser and an ILS glide path.

    (d) comes from another radionavigation aid (such a VOR) and at some point within the segment the crew switches to the localiser.

73. Which of the following radionavigation aids **cannot** be used as the main aid providing guidance in the final approach segment of a non-precision approach procedure?

    (a) An ILS localizer.

    (b) A VOR.

    (c) A Locator.

    (d) A DME.

74. Regarding the Instrumental Approach Chart (IAC) **Anchorage ILS RWY 7R ILS**, annexed to this exam and assuming that the FIX TULLI is an IAF, an aircraft ending the STAR at this point will immediately execute:

    (a) a racetrack procedure.

    (b) a direct approach following the ILS path.

    (c) a base turn reversal procedure.

    (d) a 45/180 reversal procedure.

75. Who is *responsible* to check that the positioning geometry is good enough to fly an RNAV GNSS procedure?

    (a) the pilot in command.

    (b) the air traffic controller.

    (c) the GNSS receiver.

    (d) the procedure designer.

76. What is a CBA (cross-border area)?

    (a) a type of flexible used airspace that spans over international boundaries

    (b) a TMA that spans over international boundaries

    (c) a FIR that spans over international boundaries

    (d) a CTR that spans over international boundaries

77. Regarding the Instrumental Approach Chart (IAC) **Anchorage ILS RWY 7R ILS**, annexed to this exam, the holding fix of the holding procedure defined at the end of the missed approach procedure is defined by:

    (a) the intersection of two VOR radials.

    (b) the ENA VOR facility.

    (c) the ANC VOR facility.

    (d) the intersection of two NDB courses.

78. In which of the following processes, the capacity of a sector is modelled and analysed?

    (a) In the provision of Air Traffic Services (ATS).

    (b) In the provision of Air Information Services (AIS).

    (c) In Air Traffic Flow and Capacity Management (ATFCM).

    (d) In AirSpace Management (ASM).

79. Figure 1 shows a radar screenshot taken at the North border of Barcelona FIR. EZY1713 is scheduled to land in Valencia, while EZY9JA is just transiting in the FIR. Which of the following statements is correct?

    (a) There is no potential conflict between the two aircraft if the ATC clears EZY9JA immediately to FL360.

    (b) There is a potential conflict between the two aircraft that can be solved by laterally deviating one of the two aircraft and instructing the EZY1713 to descend when ready.

    (c) There is no potential conflict between the two aircraft if the ATC clears EZY1713 immediately to FL220.

    (d) There is a potential conflict between the two aircraft that can be solved by changing appropriately the exit flight level of EZY1713.

80. The main difference between a VOR and a NDB is that...

    (a) 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.

    (b) the VOR emmits with much more signal power than the NDB.

    (c) 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.

    (d) the NDB emmits with much more signal power than the VOR.

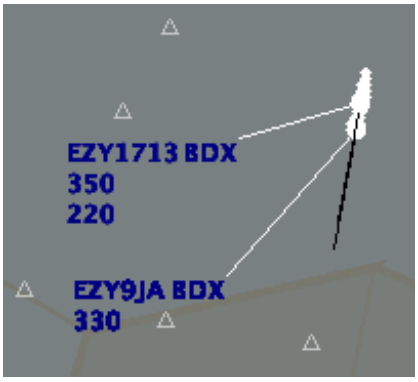


Figure 1: ATC radar screenshot

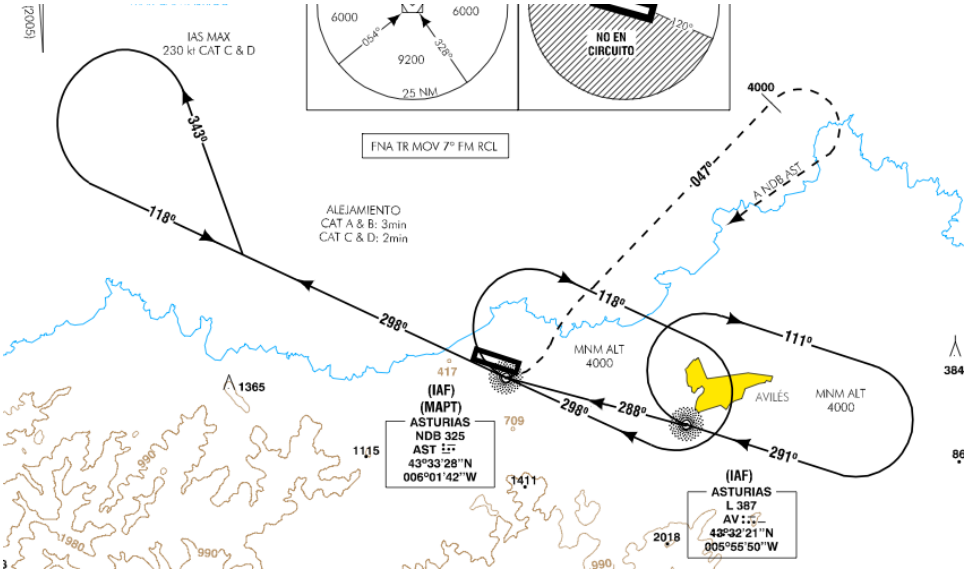


Figure 2: Snippet from Asturias instrument approach chart

ANCHORAGE, ALASKA

AL-1500 (FAA)

LOC/DME I-ANC	APP CRS	Rwy 7R ldg	10900
111.3 Chan 50	069°	TDZE	130
		Apt Elev	152

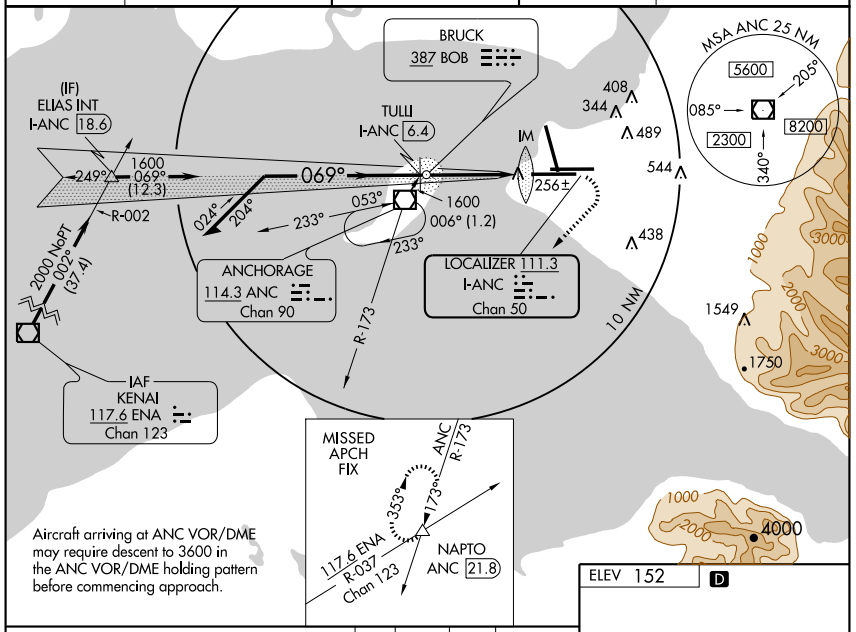
ILS RWY 7R (CAT III)

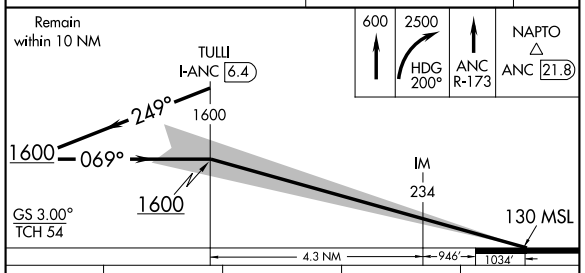
ANCHORAGE/ TED STEVENS ANCHORAGE INTL (ANC) (PANC)

ALSF-2

MISSED APPROACH: Climb to 600 then climbing right turn to 2500 via heading 200° and ANC R-173 to NAPTO Int/ANC 21.8 DME and hold, or when directed by ATC, climb to 600 then climbing right turn to 2000 via heading 280° direct BOB NDB and hold W, RT, 069° inbound. (ADF required).

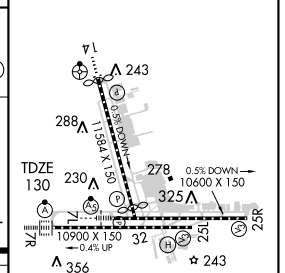
ATIS	ANCHORAGE APP CON	ANCHORAGE TOWER	GND CON	CLNC DEL
118.4	118.6 290.5	118.3 257.8	121.9 338.35	119.4 323.1





CATEGORY	A	B	C	D
S-ILS 7R	CAT IIIA RVR 07			
S-ILS 7R	CAT IIIB RVR 06			
S-ILS 7R	CAT IIIC NA			

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED



REIL Rwy 32
TDZ/CL Rwy 7R
HIRL all Rwys

AK, 20 NOV 2008 to 15 JAN 2009

AK, 20 NOV 2008 to 15 JAN 2009

ANCHORAGE, ALASKA
Orig-A 08325

ANCHORAGE/ TED STEVENS ANCHORAGE INTL (ANC) (PANC)
61° 10' N-150° 00' W

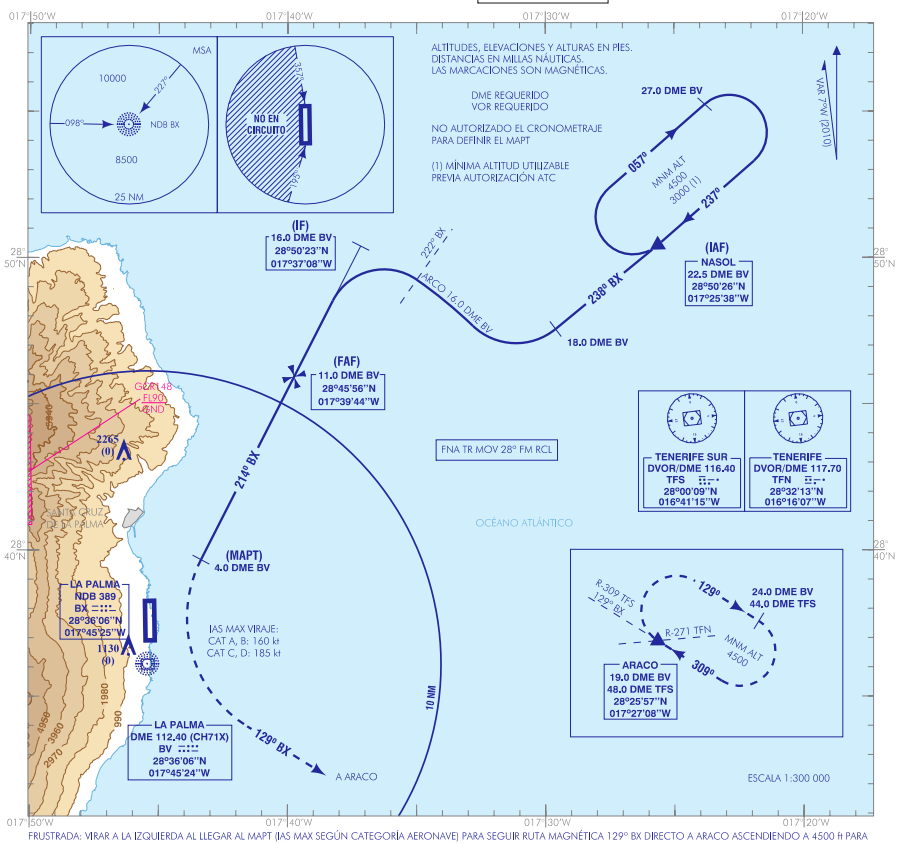
ILS RWY 7R (CAT III)

CARTA DE APROXIMACIÓN POR INSTRUMENTOS-OACI

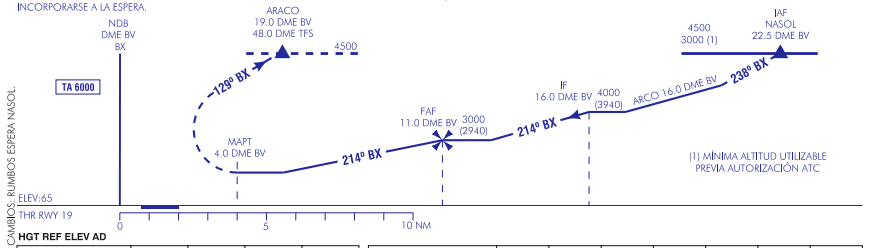
ELEV AD 107

APP	126.100
TWR	118.900
GMC	121.800

LA PALMA
NDB



FRUSTRADA: VIRAR A LA IZQUIERDA AL LLEGAR AL MAPT (IAS MAX SEGÚN CATEGORÍA AERONAVE) PARA SEGUIR RUTA MAGNÉTICA 129° BX DIRECTO A ARACO ASCENDIENDO A 4500 ft PARA INCORPORARSE A LA ESPERA.



HGT REF ELEV AD

OCA/H		A	B	C	D
STA	2.5%	RESTRINGIDA A OCA/H DE CIRCUITO POR ANGULO DE LA DERROTA ENTRE FNA Y RCL EXCESIVO			
En circuito (H) sobre		1520 (1420)		1630 (1530)	2750 (2650)

GS	kt	80	100	120	140	160	180
FAF-THR:	min:s						
FAF-MAPT:	min:s						
ROD:	ft/min						

ALT/HGT DME ( ) FNA												
13 DME	12 DME	11 DME	10 DME	9 DME	8 DME	7 DME	6 DME	5 DME	4 DME	3 DME	2 DME	1 DME

INFRAESTRUCTURES DEL TRANSPORT AERI (ITA)
Final Exam - Fall semester 2014

Correct answers

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

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