

# Simulazione di Esame

Radio Navigation - ATPL - Airline Transport Pilot license, 70 domande in 70 minuti!



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NOME ALLIEVO:

DATA & ORA:

**01. A category III A precision approach (CAT III A) is an approach which may be carried out with a runway visual range of at least:**

- a) 100 m
- b) 200 m
- c) 50 m
- d) 250 m

**02. Before transmitting the pilot should...:**

- a) Always write the message and read it during the transmission
- b) Make sure that the aircraft is levelled off
- c) Make sure that the emergency frequency is tuned in at the same time
- d) Listen out on the frequency to ensure no interference with another station already transmitting will occur

**03. The clearance: 'cleared for immediate take-off runway 03' is:**

- a) An urgency message.
- b) An unauthorized message.
- c) A flight safety message.
- d) A flight regularity message.

**04. A pilot is required to read back the following ATC message:**

- a) Altimeter settings, airways clearances, SSR operating instructions, level instructions and any messages when requested by AT
- b) Altimeter settings, weather information, information regarding the proximity of other aircraft and taxi instructions.
- c) Altimeter settings, weather information, information regarding the proximity of other aircraft and taxi instructions. altimeter settings, taxi instructions takeoff clearances, weather information and any other information given by AT
- d) Altimeter settings, weather information, airways clearances, information regarding the proximity of other aircraft and taxi instructions.

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**05. In the northern hemisphere the gradient wind of a cyclonic pressure distribution is 350/24, over the sea the surface wind would approximate**

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- a) 030/20
- b) 340/28
- c) 340/20
- d) 030/28

**06. The orbital planes of the satellite navigation system NAVSTAR/GPS are:**

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- a) Inclined 90° to the equatorial plane
- b) Inclined 55° to the earth axis
- c) Parallel to the equatorial plane
- d) The deviation bar and/or pointer change colour to red and flash intermittently

**07. The convergence of meridians:**

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- a) Is the distance between the meridians in degrees, minutes, and seconds.
- b) Is independent of latitude and longitude.
- c) Is the angular difference between the meridians.
- d) Is greater using rhumb line track than using greater circle.

**08. When a persistent top excitation limit fault on an AC generator connected to the mains with another AC generator, the overexcitation protection device opens:**

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- a) The Tie Breaker.
- b) The exciter breaker and the generator breaker.
- c) The exciter breaker, the generator breaker and the tie breaker.
- d) The Generator Breaker.

**09. Hard iron magnetism in aircraft may be caused by:**

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- a) All answers are correct.
- b) A strike of lightning.
- c) Magnetic qualities of the cargo or baggage.
- d) Steel components, mainly in engines and undercarriage.

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**10. A high aspect ratio wing produces:**

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- a) A decrease in stall speed
- b) Less sensitivity to gust effects
- c) An increase in induced drag
- d) A decrease in induced drag

**11. How many hours in advance of EOBT should a ATC flight plan be filed in the case of flights into areas subject to air traffic flow management (ATFM)?**

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- a) 1:00 hour.
- b) 3:00 hours.
- c) 2 hours.
- d) 0:30 hours.

**12. Considering only structural limitations, on long distance flights (at the aeroplane's maximum range), the traffic load is normally limited by:**

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- a) The maximum zero fuel mass.
- b) The maximum take-off mass.
- c) The maximum landing mass.
- d) The maximum zero fuel mass plus the take-off mass.

**13. A conventional stabiliser on a stable aeroplane in a normal cruise condition: 1 - always provides negative lift. 2 - contributes to the total lift of the aeroplane. 3 - may stall before the wing, in icing conditions, with large flap settings, unless adequate design and/or operational precautions are taken. 4 - is necessary to balance the total pitch moment of the aeroplane. Which of the following lists all the correct statements ?**

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- a) 2, 3 and 4
- b) 1 and 4
- c) 1 and 3
- d) 1, 3 and 4

**14. You climb from 0 to 50.000 ft and measure the decrease of the pressure per 5.000 ft. The absolute difference in barometric pressure is greatest between:**

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- a) 10.000 and 15.000 feet
- b) 5.000 and 10.000 feet
- c) 45.000 and 50.000 feet
- d) 0 and 5.000 feet

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**15. . Allowed traffic load is the difference between:**

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- a) Allowed take off mass and basic empty mass.
- b) Allowed take off mass and basic empty mass plus trip fuel.
- c) Operating mass and basic empty mass.
- d) Allowed take off mass and operating mass.

**16. You are flying from A (50°N 10°W) to B (58°N 02°E). If initial great circle track is 047°(T) what is final great circle track?**

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- a) 255/25kt
- b) 257/35kt
- c) 265/30kt
- d) 260/30kt

**17. Which of the aeronautical chart symbols indicates a basic, non-specified, navigation aid?**

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- a) 090° - 91 NM
- b) 270° - 89 NM
- c) 278° - 90 NM
- d) 098° - 90 NM[see Annex]

**18. The Mean Aerodynamic Chord (MAC) for a given wing of any planform is**

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- a) The chord of a large rectangular wing
- b) The average chord of the actual aeroplane
- c) The chord of a rectangular wing with same moment and lift
- d) The wing area divided by the wing span

**19. An aircraft is 100 NM from a VOR facility. Assuming no error when using a deviation indicator where 1 dot = 2° deviation, how many dots deviation from the centre line of the instrument will represent the limits of the airway boundary? (Assume that the airway is 10 NM wide)**

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- a) 1.5
- b) 6.0
- c) 4.5
- d) 3.0

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**20. ATC clears Fastair 345 to descend from FL 100 to FL 80. What is the correct read back by the pilot:**

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- a) Leaving flight level 100 descending to flight level 80, Fastair 345
- b) Leaving 100 to 80, Fastair 345
- c) Down to flight level 80, Fastair 345
- d) Descending to 80, Fastair 345

**21. The fuel burn off is 200 kg/h with a relative fuel density of 0.8. If the relative density is 0.75, the fuel burn will be:**

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- a) 213 kg/h
- b) 188 kg/h
- c) 200 kg/h
- d) 267 kg/h

**22. Hyperventilation is:**

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- a) A too high percentage of nitrogen in the blood
- b) A decreased lung ventilation
- c) An increased lung ventilation
- d) A too high percentage of oxygen in the blood.

**23. The function of the slot between an extended slat and the leading edge of the wing is to:**

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- a) Cause a venturi effect which energizes the boundary layer
- b) Slow the air flow in the slot so that more pressure is created under the wing
- c) Reduce the wing loading
- d) Allow space for vibration of the slat

**24. Two positions plotted on a polar stereographic chart, A (80°N 000°) and B (70°N 102°W) are joined by a straight line whose highest latitude is reached at 035°W. At point B, the true course is:**

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- a) 023°
- b) 247°
- c) 203°
- d) 305°

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**25. The purpose of a voltage regulator is to control the output voltage of the:**

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- a) Generator at varying loads and speeds.
- b) TRU.
- c) Batteries at varying loads.
- d) Generators At Varying Speeds And The Batteries At Varying Loads.

**26. According to JAR-FCL, the validity of type ratings and multi-engine class ratings will be one year from the date:**

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- a) Of the skill test
- b) The application is received by the Authority.
- c) Of issue
- d) Of the last medical certificate

**27. The acquisition of a motor programme (skill) will mean that:**

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- a) The more behaviour is automated, the more it requires attention and the more it frees resources
- b) The more behaviour is automated, the less it requires conscious attention and thus the more it frees mental resources
- c) The less behaviour is automated, the less it requires attention and the more it frees resources
- d) The more behaviour is automated, the more it requires attention and the less it frees resources

**28. The polar curve of an aerofoil is a graphic relation between:**

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- a) TAS and stall speed
- b) Angle of attack and CL
- c) CL and CD
- d) CD and angle of attack

**29. Air Traffic Service unit means:**

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- a) Air Traffic Control units and Flight Information Centres.
- b) Air Traffic Control units, Flight Information Centres or Air Traffic Services reporting offices.
- c) Flight Information Centres and Air Services reporting offices.
- d) Air Traffic Control units and Air Services reporting offices.

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**30. From which of the following would you expect to find facilitation information regarding customs and health formalities ?**

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- a) NAV/RAD charts
- b) ATCC
- c) AIP
- d) NOTAM

**31. What is the inclination to the equatorial plane of the satellite's orbit in the NAVSTAR GPS constellation?**

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- a) 45°
- b) 55°
- c) 65°
- d) WGS 84

**32. V1 has to be:**

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- a) Equal to or higher than VMCG
- b) Equal to or higher than V2
- c) Higher than VR
- d) Equal to or higher than VMCA

**33. A three-phase electrical tachometer consists of:**

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- a) A three-phase generator, a synchronous motor and a magnetic tachometer.
- b) Three speed probes and a phonic wheel.
- c) A speed probe and a phonic wheel.
- d) Three associated dynamos.

**34. A Radar Information Service (RIS) provides:**

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- a) The bearing, distance and if known, the altitude of conflicting traffic.
- b) Information for IFR traffic only.
- c) Traffic information and avoiding action.
- d) Radar separation from all other traffic.

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**35. What is the mean temperature deviation (°C) from the ISA over 50°N 010°W ?**

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- a) +9
- b) +2
- c) +13
- d) -2[see Annex]

**36. Consider the graphic representation of the power required versus true air speed (TAS), for a piston engine aeroplane with a given mass. When drawing the tangent from the origin, the point of contact (A) determines the speed of:**

---

- a) Maximum specific range
- b) Critical angle of attack
- c) Maximum thrust
- d) Maximum endurance

**37. An altimeter adjusted to 1013 hPa indicates an altitude of 3600 FT. Should this altimeter be adjusted to the local QNH value of 991 hPa, the altitude indicated would be**

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- a) 3006 FT.
- b) 4194 FT.
- c) 4278 FT.
- d) 2922 FT.

**38. A cumulus congestus is:**

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- a) A remnant of a CB
- b) A cumulus with little vertical development
- c) A cumulus that is of great vertical extent
- d) A cumulus that only occurs in association with the ITCZ

**39. An aircraft at FL330 is required to commence descent when 65 NM from a VOR and to cross the VOR at FL100. The mean GS during the descent is 330 kt. What is the minimum rate of descent required?**

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- a) 1650 FT/MIN
- b) 1950 FT/MIN
- c) 1850 FT/MIN
- d) 1750 FT/MIN



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**40. An ATS airspace where IFR and VFR are permitted and receive flight information service if requested, is classified as**

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- a) Airspace F and G
- b) Airspace F
- c) Airspace C
- d) Airspace E and F

**41. What does 'Friction coefficient 20' in a runway report mean:**

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- a) Braking action poor
- b) Braking action unreliable
- c) Braking action good
- d) Braking action medium

**42. In the northern hemisphere, during deceleration following a landing in a northerly direction, a direct reading magnetic compass indicates:**

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- a) No apparent turn.
- b) A heading fluctuating about 360°.
- c) An apparent turn to the west.
- d) An apparent turn to the east.

**43. A signal sent by radiotelephony consisting of the spoken words PAN PAN, PAN PAN, PAN PAN means:**

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- a) The aircraft is diverting from the route cleared because of a thunderstorm and asks for immediate reclearance
- b) Imminent danger threatens the aircraft and immediate assistance is required
- c) An aircraft on final approach is starting the missed approach procedure
- d) The aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, but immediate assistance is not required

**44. Between which components, with reference to the SHELL Concept, covers pilot misinterpretation of the old three-point altimeter?**

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- a) Liveware - Environment
- b) Liveware - Software
- c) Liveware - Liveware
- d) Liveware - Hardware

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**45. Excluding constants, the coefficient of induced drag ( $C_{Di}$ ) is the ratio of:**

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- a)  $C_L$  and  $C_D$
- b)  $C_L$  and  $b$  (wing span)
- c)  $C_{L^2}$  and  $AR$  (aspect ratio)
- d)  $C_{L^2}$  and  $S$  (wing surface)

**46. What is the local mean time, position  $65^{\circ}25'N$   $123^{\circ}45'W$  at 2200 UTC?**

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- a) 2200
- b) 1345
- c) 0815
- d) 0615

**47. The purpose of a trim tab (device) is to:**

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- a) Trim The Aeroplane During Normal Flight.
- b) Trim The Aeroplane At Low Airspeed.
- c) Reduce or to cancel control forces.
- d) Lower Manoeuvring Control Forces.

**48. The minimum climb gradient required on the 2nd flight path segment after the take-off of a jet aeroplane is defined by the following parameters:**  
1 Gear up  
2 Gear down  
3 Wing flaps retracted  
4 Wing flaps in take-off position  
5 N engines at the take-off thrust  
6 (N- 1) engines at the take-off thrust  
7 Speed over the path equal to  $V_2 + 10$  kt  
8 Speed over the path equal to  $1.3 V_S$   
9 Speed over the path equal to  $V_2$   
10 At a height of 35 ft above the runway  
The correct statements are:

---

- a) 1, 4, 5, 10
- b) 2, 3, 6, 9
- c) 1, 5, 8, 10
- d) 1, 4, 6, 9

**49. At the commencement of final approach, if the controller possesses wind information in the form of components, significant changes in the mean surface wind direction and speed shall be transmitted to aircraft. The mean cross-wind component significant change is:**

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- a) 5 KT
- b) 8 KT
- c) 10 KT
- d) 3 KT

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**50. What is the radiotelephony call sign suffix for the aeronautical station indicating aerodrome control service:**

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- a) AERODROME
- b) CONTROL
- c) APRON
- d) TOWER

**51. Refer to the General Student Pilot Route Manual - VFR Chart ED-4 Give the frequency of STUTTGART ATIS.**

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- a) 119.05 MHz
- b) 135.775 MHz
- c) 116.12 kHz
- d) 126.12 MHz

**52. What is the Q-code for 'true bearing from the station'?**

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- a) QDM
- b) QDR
- c) QFE
- d) QTE

**53. In case of a hi-jack, the squawk code is:**

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- a) A 7600
- b) A 7500
- c) A 2000
- d) A 7700

**54. Refer to CAP 697 Section 2 SEP1 Page 3 Figure 2.1 Time, Fuel and Distance to Climb. Given: Take-off mass 3500 lbs, departure aerodrome pressure altitude 2500 ft, OAT +10°C, First cruising level: FL 140, OAT -5°C Find the time, fuel and still air distance to climb.**

---

- a) 24 min, 7.7 GAL, 47 NAM
- b) 16.5 min, 4.9 GAL, 34.5 NAM
- c) 23.5 min, 7.1 GAL, 48.5 NAM
- d) 23 min, 7.7 GAL, 50 NAM

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**55. Given:  $P_t$  = total pressure  $P_s$  = static pressure  $P_d$  = dynamic pressure**

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- a)  $P_d = P_t + P_s$
- b)  $P_t = P_d + P_s$
- c)  $P_d = P_t / P_s$
- d)  $P_s = P_t + P_d$

**56. Which of the following alternatives is correct when you cross the international date line?**

---

- a) The date will increase if you are crossing on a westerly heading.
- b) If you are crossing from westerly longitude to easterly longitude the date will remain the same.
- c) The date will always be the same.
- d) The date will increase if you are crossing on a easterly heading.

**57. According to ICAO Doc 8168, a noise abatement departure procedure is NOT to be initiated at less than:**

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- a) 1 000 ft above aerodrome elevation
- b) 800 ft above aerodrome elevation
- c) 2 000 ft above aerodrome elevation
- d) 1 500 ft above aerodrome elevation

**58. In the ATC flight plan item 15, it is necessary to enter any point at which a change of cruising speed takes place. For this purpose a 'change of speed' is defined as:**

---

- a) 20 km per hour or 0.1 Mach or more
- b) 10 % TAS or 0.05 Mach or more
- c) 20 knots or 0.05 Mach or more
- d) 5% TAS or 0.01 Mach or more

**59. What does the term 'clearance limit' mean:**

---

- a) The point to which an aircraft is granted an air traffic control clearance
- b) The time after which an air traffic control clearance will be automatically cancelled if the flight has not been commenced
- c) The time at which an aircraft is given an air traffic control clearance
- d) The time of expiry of an air traffic control clearance

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**60. When flying at 6000 feet above ground level, the DME indicates 5 NM. What is the horizontal distance from the aircraft to overhead the DME?**

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- a) 4.9 NM
- b) 4.3 NM
- c) 4.6 NM
- d) 5.2 NM

**61. The advantages of alternating current on board an aircraft are: 1. simple connection 2. high starting torque 3. flexibility in use 4. lighter weight of equipment 5. easy to convert into direct current 6. easy maintenance of machines. The combination of correct statements is:**

---

- a) 1, 2, 3, 4, 5, 6
- b) 3, 4, 5, 6
- c) 1, 4, 2006
- d) 1, 2, 3, 5, 6

**62. The primary purpose of a supercharger is to:**

---

- a) Provide Leaner Mixtures At Altitudes Below 5000 Ft
- b) Increase quantity of fuel at metering jet
- c) Provide a richer mixture at high altitudes
- d) Maintain power at altitude

**63. An aircraft flies a great circle track from 56° N 070° W to 62° N 110° E. The total distance travelled is?**

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- a) 5420 NM
- b) 3720 NM
- c) 2040 NM
- d) 1788 NM

**64. During a special VFR flight, the minimum visibility required by EASA OPS is:**

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- a) 2.500 meters
- b) 3.000 meters
- c) 5.000 meters
- d) 1.500 meters or more

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**65. The landing field length required for jet aeroplanes at the alternate (wet condition) is the demonstrated landing distance plus**

---

- a) 92%
- b) 67%
- c) 70%
- d) 43%

**66. Purposes of an accumulator in an hydraulic system are:1. to damp pressure fluctuations.2. to cool the hydraulic fluid.3. to serve as a limited alternate source of pressure.4. to serve as a main pressure source for normal operation. The combination that regroups all of the correct statements is:**

---

- a) 1, 3.
- b) 2, 3.
- c) 1, 4.
- d) 2, 4.

**67. Which one of the following statements about the lift-to-drag ratio in straight and level flight is correct?**

---

- a) At the highest value of the lift / drag ratio the total drag is lowest
- b) The highest value of the lift / drag ratio is reached when the lift is equal to the aircraft weight
- c) The lift / drag ratio always increases as the lift decreases
- d) The highest value of the lift / drag ratio is reached when the lift is zero

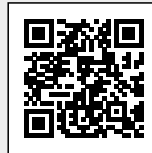
**68. By-pass turbine engines are mainly used in commercial aviation, because:**

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- a) Twin Spool Or Triple Spool Jet Engines Require A High By Pass Ratio.
- b) At high subsonic airspeeds they have a better propulsive efficiency than propeller or straight jet engines.
- c) They are lighter than straight jet engines.
- d) They Produce Less Noise.

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**69. To comply with the approved airline Operations Manual in a twin-engine aircraft (1 h 45 min flight on 1 engine at an air speed of 420 KT to reach the alternate aerodromes in still air conditions), a pilot has to choose an ATC route, in Minimum Navigation Performance Specification area, while at the same time taking the shortest possible time. Given that the three alternate aerodromes taken into account are SHANNON, SANTA MARIA, ST JOHN TORBAY, the track to be chosen between PARIS and WASHINGTON will be:**

---

- a) Track A, time 8 h 3 min
- b) Track D, time 8 h 20 min
- c) Track C, time 8 h 15 min
- d) Track B, time 8 h 10 min [see Annex]

**70. Given: TAS = 440 kt, HDG (T) = 349°W/V = 040/40kt. Calculate the drift and GS?**

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- a) 6L - 395 kt
- b) 2L - 420 kt
- c) 5L - 385 kt
- d) 4L - 415 kt

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## Schema Risposte

Confronta le risposte fornite con il seguente schema e segna il tuo punteggio!

|       |       |       |       |
|-------|-------|-------|-------|
| 01: B | 02: D | 03: C | 04: A |
| 05: C | 06: D | 07: C | 08: C |
| 09: A | 10: D | 11: B | 12: B |
| 13: A | 14: D | 15: D | 16: D |
| 17: D | 18: C | 19: A | 20: A |
| 21: C | 22: C | 23: A | 24: C |
| 25: A | 26: C | 27: B | 28: C |
| 29: B | 30: C | 31: B | 32: A |
| 33: A | 34: A | 35: D | 36: A |
| 37: A | 38: C | 39: B | 40: A |
| 41: A | 42: A | 43: D | 44: D |
| 45: C | 46: B | 47: C | 48: D |
| 49: A | 50: D | 51: D | 52: D |
| 53: B | 54: C | 55: B | 56: A |
| 57: B | 58: D | 59: A | 60: A |
| 61: B | 62: D | 63: B | 64: D |
| 65: A | 66: A | 67: A | 68: B |
| 69: C | 70: D |       |       |