

Simulazione di Esame

Aircraft General Knowledge - Airframe, Systems, Powerplant - ATPL - Airline Transport Pilot license, 70 domande in 70 minuti!



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NOME ALLIEVO:

DATA & ORA:

01. The safety precautions to be taken whenever using oxygen are 1. refrain from smoking, avoid sparks. 2. Avoid operation of radio communication equipment. 3. Operate oxygen system valves slowly. 4 . Avoid greasy matter The combination regrouping all the correct statements is:

- a) 1, 3, 4.
- b) 1, 2, 2004.
- c) 2, 3, 2004.
- d) 1, 2, 2003.

02. The fan of a turbo-fan engine is driven by:

- a) The lp turbine.
- b) Airflow drawn across it by the HP compressor.
- c) The HP compressor through reduction gearing.
- d) The Hp Turbine.

03. Which word or phrase shall be used if you want to say: 'Reduce your rate of speech'?

- a) Repeat
- b) Words twice
- c) Say again
- d) Speak slower

04. For an aeroplane with a tyre pressure of 16 bars, there is a risk of dynamic hydroplaning as soon as:

- a) Water depth is equal to the depth of the tyre grooves.
- b) Speed is greater than 117 kt.
- c) Cross wind is greater than 15 kt.
- d) Speed is greater than 138 kt.

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05. A substance which may never be used in the vicinity or on parts of an oxygen installation is:

- a) Grease
- b) Nitrogen
- c) Water
- d) Halon

06. The criterion which shall be used to determine that a specific level is occupied by an aircraft shall be, (except that appropriate ATS authorities may specify a smaller criterion):

- a) +/- 200 ft.
- b) +/- 150 ft.
- c) +/- 300 ft.
- d) +/- 250 ft.

07. An isothermal layer is a layer of air in which the temperature

- a) Increases with height
- b) Decreases with height at a constant rate
- c) Remains constant with height
- d) Increases with height at a constant rate

08. In case of an engine failure which is recognized at or above V1:

- a) A height of 50 ft must be reached within the take-off distance
- b) The take-off must be rejected if the speed is still below VLOF
- c) The take-off should be rejected if the speed is still below VR
- d) The take-off must be continued

09. Which of the alternatives represents the correct relationship?

- a) V2 and V1 should not exceed VMCA
- b) VMCG and V1 should not exceed VR
- c) V2 and V1 should not exceed VMCG
- d) VMCL and V1 should not exceed VR

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10. The principle of the TCAS (Traffic Collision Avoidance Systems) is based on the use of:

- a) Airborne weather radar system
- b) Transponders fitted in the aircraft
- c) Air traffic control radar systems
- d) F.M.S. (Flight Management System)

11. DOC 4444 (ICAO) establishes, that wake turbulence separation minima shall be based on a grouping of aircraft types into three categories according to the maximum certificated take-off mass. Heavy (H) Category, are all aircraft types of:

- a) 135 000 Kg or more
- b) Less than 136 000 Kg but more than 126 000 Kg
- c) 136 000 Kg or more
- d) 146 000 Kg or more

12. How will the density and static temperature change in a supersonic flow from a position in front of a shock wave to behind it ?

- a) Density will increase, static temperature will increase.
- b) Density will decrease, static temperature will decrease.
- c) Density will decrease, static temperature will increase.
- d) Density will increase, static temperature will decrease.

13. An aircraft is flying on a heading of 270°(M). The VOR OBS is also set to 270° with the full left deflection and FROM flag displayed. In which sector is the aircraft from the VOR ground station?

- a) NW
- b) NE
- c) SE
- d) 156 NM

14. An aircraft transmitting a distress message is required to give its position as:

- a) The most accurate possible using GPS if fitted.
- b) Present or last known position, altitude or level and heading.
- c) Position relative to a VRP.
- d) Latitude and longitude.

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15. For a pressurised aeroplane, certificated to fly above 25 000 ft, all occupants of flight deck seats on flight deck duty shall be supplied with supplemental oxygen during a period in any case no less than:

- a) 2 hours
- b) 10 minutes
- c) 1 hour
- d) 30 minutes

16. The modern anti-skid processes are based on the use of a computer whose input data is 1. idle wheel speed (measured) 2. braked wheel speed (measured) 3. brake temperature (measured) 4. desired idle wheel train slipping rate 5. tire pressure The combination regrouping all the correct statements is:

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

17. Which one of the following is an advantages of a multi-sensor system using inputs from a global navigation satellite system (GNSS) and an inertial navigational system (INS)?

- a) The average position calculated from data provided by both systems increases overall accuracy
- b) The activation of 'Selective Availability' can be recognised by the INS
- c) The only advantage of coupling both systems is double redundancy
- d) 18

18. In accordance with the regulations, refuelling performed while passengers are embarking or disembarking the aircraft:

- a) Is acceptable provided that the ground area beneath the exits intended for emergency evacuation and slide deployment areas must be kept clear.
- b) Is acceptable provided that all flight crew shall remain at their station.
- c) Is prohibited.
- d) Is acceptable provided that all the aircraft doors must be completely opened.

19. The highest value of longitude is found:

- a) Along equator.
- b) At Greenwich anti meridian.
- c) Close to the prime meridian.
- d) Close to the poles.

Simulazione di Esame

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20. What prevents air from flowing directly from high-pressure areas to low-pressure areas ?

- a) Coriolis force
- b) The pressure gradient force
- c) Katabatic force
- d) Surface friction

21. What seems to be the main role of Orthodox sleep?

- a) It essentially allows for physical recovery
- b) Its main role is associated with activities of memory activities and restoration of attention capabilities
- c) It includes physical and mental recuperation associate with fatigue
- d) Via physical recovery, it is characterised by an alternation of dream phases and paradoxical phases

22. The maximum mass to which an aeroplane may be loaded, prior to engine start, is:

- a) Maximum certificated taxi (ramp) mass
- b) Maximum regulated take - off mass
- c) Maximum certificated take - off mass
- d) Maximum regulated taxi (ramp) mass

23. An aircraft's compass must be swung:

- a) If the aircraft has been in the hanger for a long time and has been moved several times.
- b) After a change of theatre of operations at the same magnetic latitude.
- c) If the aircraft has been subjected to a hammering.
- d) Every maintenance inspection.

24. During the cruising phase of a short-haul flight the captain starts to smoke a cigarette in the cockpit. The flying copilot asks him to stop smoking because he is a non-smoker. The captain tells him: 'This is your problem', and continues smoking. What should the copilot do?

- a) He should learn to accept the captain smoking cigarettes in the cockpit
- b) He should not further discuss this issue but should come back to this conflict during the debriefing
- c) He should bring a cabin crew member in to arbitrate
- d) He should repeat his worries about smoking in the cockpit and should argue with the captain about this problem until the conflict is solved

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25. Just prior to departure, you accept 10 passengers additional on board who will be seated in 'compartment OC' and you have 750 kg unloaded from cargo compartment 5. The take-off centre of gravity in MAC % (Mean Aerodynamic Chord) will be located at:

- a) 29.5 %
- b) 27.8 %
- c) 27.2 %
- d) 30.5 %

26. Which of the following is a complete list of airborne weather radar antenna stabilisation axes?

- a) Roll and pitch
- b) Roll and yaw
- c) Pitch and yaw
- d) (i) 25 (ii) 17

27. What is the effect of a head wind component, compared to still air, on the maximum range speed (IAS) and the speed for maximum climb angle respectively?

- a) Maximum range speed decreases and maximum climb angle speed increases
- b) Maximum range speed decreases and maximum climb angle speed decreases
- c) Maximum range speed increases and maximum climb angle speed stays constant
- d) Maximum range speed increases and maximum climb angle speed increases

28. Refer to CAP698 Section 3 - MEP1 Figure 3.1 Normal Procedure Given: OAT 24 °C Pressure Altitude: 3000' RWY, 12L Wind- 080/12 KT Take-off Mass: 3800 lbs Other conditions as associated in the header of the graph. What is the take-off distance over a 50 ft obstacle?

- a) 1950 ft
- b) 1420 ft
- c) 1600 ft
- d) 1700 ft

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29. Two identical turbojet aeroplanes (whose specific fuel consumption is assumed to be constant) are in a holding pattern at the same altitude. The mass of the first one is 95000 kg and its hourly fuel consumption is equal to 3100 kg/h. Since the mass of the second one is 105000 kg, its hourly fuel consumption is:

- a) 3259 kg/h
- b) 3426 kg/h
- c) 3602 kg/h
- d) 3787 kg/h

30. Given: Total mass: 7500 kg Centre of gravity (cg) location station: 80.5 Aft cg limit station: 79.5 How much cargo must be shifted from the aft cargo compartment at station 150 to the forward cargo compartment at station 30 in order to move the cg location to the aft limit?

- a) 65.8 kg.
- b) 62.5 kg.
- c) 73.5 kg.
- d) 68.9 kg.

31. Given: SHA VOR/DME (N5243.3 W00853. 1) Birr aerodrome (N5304 W0075 4) What is the SHA radial and DME distance when overhead Birr aerodrome?

- a) 0800
- b) 0700
- c) 1300
- d) 1200

32. Given: True HDG = 035°, TAS = 245 kt, Track (T) = 046°, GS = 220 kt. Calculate the W/V?

- a) 335/55kt
- b) 335/45kt
- c) 340/45kt
- d) 340/50kt

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33. A minimum vertical separation shall be provided until aircraft are established inbound on the ILS localizer course and/or MLS final approach track. This minimum is, when independent parallel approaches are being conducted:

- a) 200 m (660 ft)
- b) 150 m (500 ft)
- c) 300 m (1000 ft)
- d) 100 m (330 ft)

34. The radar controller is transmitting: 'Confirm squawk'. What does he mean?

- a) The controller wants to know which code is set on the transponder.
- b) The controller requests the registration of the aircraft.
- c) The controller wants you to transmit your bearing.
- d) The controller wants you to repeat your last transmission once again.

35. In accordance with JAR OPS 1 (Aerodrome Operating Minima), for a Category III B approach, the RVR shall not be less than:

- a) 150 m
- b) 100 m
- c) 75 m
- d) 50 m

36. On a polar stereographic chart where the Earth convergence between 2 points located on the parallel 60°N is 20°, the great circle maximum cross-track difference with the straight line joining the 2 points is:

- a) 9.2 NM
- b) 30 NM
- c) 40 NM
- d) 4.0 NM

37. A Category I precision approach (CAT I) is an approach which may be carried out with a runway visual range of at least:

- a) 500 m
- b) 800 m
- c) 350 m
- d) 550 m

Simulazione di Esame

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38. A pilot, accelerating or decelerating in level flight may get:

- a) The illusion of climbing or descending
- b) The impression of stationary objects moving to the right or left
- c) The illusion to turning
- d) The feeling of rotation

39. It may be determined that an aircraft is not properly bonded if:

- a) A Circuit Breaker Pops Out.
- b) Static noises can be heard on the radio.
- c) There is heavy corrosion on the fuselage skin mountings.
- d) There Is Interference On The Vor Receiver.

40. The reason that the solar day lasts longer than the sidereal day is that:

- a) The orbital track of the earth around the sun is an ellipse.
- b) Both the direction of rotation of the Earth around its axis and its orbital rotation around the sun are the same.
- c) The orbital speed of the earth around its axis diminishes slowly.
- d) The sun has an own movement through the universe opposite to the movement of the earth due to the gravitational forces of celestial bodies.

41. The purpose of the 'Pressure Relief Valve' in a high pressure oxygen system is to:

- a) Reduce Pressure In The Oxygen Reservoir To A Suitable Manifold Pressure For The Regulator
- b) Act as a manual shut-off valve
- c) Relieve overpressure if the pressure reducing valve malfunctions
- d) Maximize The Charging Pressure Of The System

42. Which of the following statements best characterise a self-centered cockpit ?

- a) The communication between crew members always increases when the captain takes charge of a situation
- b) The egoistic and self-centered personality of the captain often leads to a synergetic cockpit
- c) While decreasing communication, the independence of each member bolsters the crew's synergy
- d) Without taking note of what the other members are doing, each one does his own thing while at the same time assuming that everyone is aware of what is being done or what is going on

Simulazione di Esame

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43. A higher outside air temperature (OAT):

- a) Increases the climb limited take-off mass
- b) Increases the field length limited take-off mass
- c) Decreases the take-off distance
- d) Decreases the brake energy limited take-off mass

44. During climb to the cruising level, a headwind component:

- a) Increases the climb time
- b) Increases the amount of fuel for the climb
- c) Decreases the climb time
- d) Decreases the ground distance flown during that climb

45. What is the SI unit of measurement for power?

- a) Pa/m²
- b) Kg/m/s²
- c) N/m
- d) Nm/s

46. For aircraft call sign "Easy G-ABCD" the correct abbreviation is:

- a) Golf Charlie Delta
- b) Easy Charlie Delta
- c) Easy Delta
- d) Easy Golf Charlie Delta

47. The stalling speed in IAS will change according to the following factors:

- a) Decrease in a forward c.g. location, higher altitude and due to the slip stream from a propeller on an engine located forward of the wing
- b) Increase during turn, increased mass and forward c.g. location
- c) Increase with increased load factor, more flaps but will not increase due to the bank angle in a turn
- d) Increase with increased load factor, icing conditions and an aft c.g. location

Simulazione di Esame

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48. In the ATC flight plan Item 15 (Cruising speed), when not expressed as a Mach number, cruising speed is expressed as:

- a) IAS
- b) TAS
- c) Groundspeed
- d) CAS

49. What, if any, is the abbreviated call sign of Fastair 2345?

- a) Fastair 345
- b) No abbreviated form
- c) 2345
- d) Fastair 45

50. What is the consequence of a microphone button stuck on transmit (switched 'on')?

- a) None
- b) Other stations will have to use the 'words twice' technique
- c) The frequency can not be used by others
- d) Readability will improve for all stations

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

- 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

52. Refer to Student Pilot Route Manual Amsterdam, Schipol (Plate 10- 3): Which of the following statements is correct for ANDIK departures from runway 19L?

- a) Contact SCHIPOL DEPARTURE 119.05 passing 2000 ft and report altitude
- b) Maximum IAS 250kt turning left at SPL 3.1 DME
- c) The distance to ANDIK is 25 NM
- d) Cross ANDIK below FL60[see Annex]

Simulazione di Esame

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53. What is the equation for the climb gradient expressed in percentage during unaccelerated flight (applicable to small angles only)?

- a) $\text{Climb Gradient} = ((\text{Thrust} - \text{Drag}) / \text{Weight}) \times 100$
- b) $\text{Climb Gradient} = (\text{Lift} / \text{Weight}) \times 100$
- c) $\text{Climb Gradient} = ((\text{Thrust} - \text{Mass}) / \text{Lift}) \times 100$
- d) $\text{Climb Gradient} = ((\text{Thrust} + \text{Drag}) / \text{Lift}) \times 100$

54. According to JAR-OPS 1, a windshield wiper or equivalent means to maintain a clear portion of the windshield during precipitation is required at each pilot station to operate an aeroplane with a:

- a) Maximum certificated take-off mass is greater than 15,000 kg
- b) Maximum certificated take-off mass is greater than 5,700 kg
- c) Maximum approved passenger seating configuration is greater than 30 after January 1st, 2000
- d) Maximum approved passenger seating configuration is greater than 9

55. According to ICAO Annex 8, a certificate of airworthiness shall be renewed or shall remain valid subject to the:

- a) Laws of the State in which is operated
- b) Laws of the State of registry
- c) Requirements laid down by ICAO
- d) Laws of the State of registry and operation

56. Which of the following statements concerning the core of a polar front jet stream is correct ?

- a) It lies in the warm air
- b) Its pressure surfaces are horizontal at the height of the core
- c) It and its surface projection lie in the warm air
- d) It lies in the cold air

57. An aeroplane whose maximum approved configuration is 200 passenger seats must be equipped with:

- a) 3 hand fire extinguishers in the compartment.
- b) 4 hand fire extinguishers in the passenger compartment.
- c) 7 hand fire extinguishers in the passenger compartment.
- d) 5 hand fire extinguishers in the passenger compartment.

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58. The transfer of oxygen from the alveoli to the blood can be described by:

- a) The law of diffusion
- b) Henry's Law
- c) Dalton's Law
- d) Boyle's Law

59. Equivalent Air Speed (EAS) is:

- a) Calibrated Air Speed (CAS) corrected for compressibility error.
- b) True Air Speed (TAS) corrected for compressibility error.
- c) Calibrated Air Speed (CAS) corrected for density error.
- d) True Air Speed (TAS) corrected for compressibility and density errors.

60. Consider an aeroplane with: 1 a trim tab. 2 fully powered hydraulic controls and an adjustable horizontal stabiliser. For both cases and starting from a trimmed condition, how will the neutral position of the control column change, after trimming for a speed increase?

- a) 1 moves forward, 2 moves forward.
- b) 1 does not change, 2 moves forward.
- c) 1 does not change, 2 does not change.
- d) 1 moves forward, 2 does not change.

61. With respect to multi-engine piston powered aeroplane, determine the ramp mass (lbs) in the following conditions: Basic empty mass: 3 210 lbs Basic arm: 88.5 Inches One pilot: 160 lbs Front seat passenger: 200 lbs Centre seat passengers: 290 lbs One passenger rear seat: 110 lbs Baggage in zone 1: 100 lbs Baggage in zone 4: 50 lbs Block fuel: 100 US Gal. Trip fuel: 55 US Gal. Fuel for start up and taxi (included in block fuel): 3 US Gal. Fuel density: 6 lbs/US Gal.

- a) 4120
- b) 4390
- c) 4720
- d) 4372

Simulazione di Esame

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62. During a night flight, an observer located in the cockpit, seeing an aircraft coming from front right on approximate opposite parallel track, will first see the:

- a) Red light
- b) White light
- c) Green light
- d) Red and white flashing light

63. The following actions are appropriate when faced with symptoms of decompression sickness:1. climb to higher level2. descent to the higher of 10000 ft or MSA and land as soon as possible3. breathe 100 % oxygen4. obtain medical advice about recompression after landing

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

64. In relation to the NAVSTAR/GPS satellite navigation system, 'Search the Sky' is a:

- a) Procedure performed by the receiver to recognise new satellites becoming operational
- b) Continuous process by the ground segment to monitor the GPS satellites
- c) Continuous procedure performed by the receiver that searches the sky for satellites rising above the horizon
- d) Geometric height above ground

65. What is the rhumb line (RL) direction from 45°N 14°12'W to 45°N 12°48'E?

- a) 006 - 95 kt
- b) 346 - 102 kt
- c) 359 - 102 kt
- d) 358 - 101 kt

66. Planning an IFR-flight from Paris (Charles de Gaulle) to London (Heathrow) for the twin jet aeroplane. Given: Estimated Take-off Mass (TOM) 52000 kg, Airport elevation 387 ft, FL 280, W/V 280°/40 kt, ISA Deviation -10°C, Average True Course 340° Find: Time to the top of climb (TOC)

- a) 3 min
- b) 11 min
- c) 15 min
- d) 12 min[see Annex]

Simulazione di Esame

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67. When a persistent over-excitation fault is detected on only one AC generator, the protection device opens the:

- a) Tie Breaker.
- b) Exciter breaker, generator breaker and tie breaker.
- c) Exciter breaker and generator breaker.
- d) Generator Breaker And Tie Breaker.

68. According with DOC 4444 (ICAO), a wake turbulence radar separation minima of 9,3 km (5,0 NM) shall be applied when a:

- a) HEAVY aircraft is crossing behind a HEAVY aircraft, at the same altitude or less than 300 m (1 000 ft)
- b) LIGHT aircraft is crossing behind a HEAVY aircraft, at the same altitude or less than 300 m (1 000 ft)
- c) MEDIUM aircraft is crossing behind a MEDIUM aircraft, at the same altitude or less than 300 m (1 000 ft)
- d) LIGHT aircraft is crossing behind a MEDIUM aircraft, at the same altitude or less than 300 m (1 000 ft)

69. What is the correct way of transmitting the number 3500 when indicating an altitude or an height?

- a) Three five hundred
- b) Three five zero zero
- c) Three five double zero
- d) Three thousand five hundred

70. In a turn at a constant angle of bank, the turn indicator reading is:

- a) Independent to the aircraft true airspeed
- b) Proportional to the aircraft true airspeed
- c) Proportional to the aircraft weight
- d) Inversely proportional to the aircraft true airspeed

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Schema Risposte

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

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