

Simulazione di Esame

Aircraft General Knowledge - Instrumentation - ATPL - Airline Transport Pilot license, 70 domande in 70 minuti!



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NOME ALLIEVO:

DATA & ORA:

01. The advantages of fly-by-wire control are: 1) Reduction of the electric and hydraulic power required to operate the control surfaces. 2) Lesser sensitivity to lightning strike. 3) Direct and indirect weight saving through simplification of systems. 4) Immunity to different interfering signals. 5) Improvement of piloting quality throughout the flight envelope. The combination regrouping all the correct statements is:

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

02. In order to get rid of excess nitrogen following scuba diving, subsequent flights should be delayed

- a) 3 hours after non decompression diving
- b) 24 hours
- c) 48 hours after a continuous ascent in the water has been made
- d) 36 hours after any scuba diving

03. The reason why the measured distance between a NAVSTAR/GPS satellite navigation system satellite and a receiver is called a 'Pseudo-Range' is because the:

- a) Measured distance is based on the Pseudo Random Noise code
- b) Movement of satellite and receiver during the distance calculation is not taken into account
- c) Calculated range includes receiver clock error
- d) 7500

04. The automatic ground spoiler extension system is normally activated during landing by:

- a) Main wheel spin up.
- b) Idle Thrust Selection.
- c) Brake Pressure Application.
- d) Ground Spoiler Handle.

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05. When independent parallel approaches are being conducted and vectoring to intercept the ILS localizer course or MLS final approach track, the final vector shall be such as to enable the aircraft to intercept the ILS localizer course or MLS final approach track at an angle not greater than:

- a) 25 degrees
- b) 30 degrees
- c) 15 degrees
- d) 20 degrees

06. During level flight at a constant cabin pressure altitude (which could be decreased, even at this flight level), the cabin outflow valves are:

- a) Fully Closed Until The Cabin Climbs To A Selected Altitude.
- b) Fully closed until the cabin descends to a selected altitude.
- c) At the pre-set position for take-off.
- d) Partially open.

07. A pilot wishes to turn left on to a southerly heading with 20° bank at a latitude of 20° North. Using a direct reading compass, in order to achieve this he must stop the turn on an approximate heading of:

- a) 160°
- b) 170°
- c) 200°
- d) 190°

08. Which of the following statements is true of the dew point of an air mass?

- a) It can be higher than the temperature of the air mass
- b) It can be used together with the air pressure to estimate the air mass's relative humidity
- c) It can only be equal to, or lower, than the temperature of the air mass
- d) It can be used to estimate the air mass's relative humidity even if the air temperature is unknown

09. When a continuous loop wire type fire detection system is tested:

- a) The wiring and the warning are tested.
- b) The warning function is tested.
- c) The whole wire is heated.
- d) A Part Of The Wire Is Heated.

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10. In which screen modes of an Electronic Horizontal Situation Indicator (EHSI) on a B737-400 will radar returns not be shown?

- a) FULL NAV, PLAN and MAP
- b) EXP VOR/ ILS, PLAN and MAP
- c) FULL VOR/ILS, EXP VOR/ILS and PLAN
- d) 1620 pps

11. Under which of the following circumstances may you expect a solid reception of the TOWER frequency 118.2 MHz:

- a) Aircraft at high level in the vicinity of the ground station
- b) Aircraft at low level, in the vicinity of the ground station, in the radio shadow zone of a hill
- c) Aircraft at low level, far away from the ground station, in the radio shadow zone of a hill
- d) Aircraft at low level but far away from the ground station

12. Given: Maximum structural take-off mass= 146 900 kg Maximum structural landing mass= 93 800 kg Maximum zero fuel mass= 86 400 kg Trip fuel= 27 500 kg Block fuel= 35 500 kg Engine starting and taxi fuel = 1 000 kg The maximum take-off mass is equal to:

- a) 113 900 kg
- b) 121 300 kg
- c) 120 300 kg
- d) 120 900 kg

13. Shuttle valves will automatically:

- a) Guard Systems Against Over-pressure.
- b) Shut down systems which are overloaded.
- c) Reduce pump loads.
- d) Switch hydraulically operated units to the most appropriate pressure supply.

14. An urgency message shall be preceded by the radiotelephony urgency signal:

- a) URGENCY, spoken three times
- b) PAN PAN, spoken three times
- c) ALERFA, spoken three times
- d) MAYDAY, spoken three times

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15. When filling in an ATC flight plan before departure, the time information which should be entered in item 13: 'Time' is:

- a) Planned take-off time.
- b) Estimated off-block time.
- c) The time of flight plan filing.
- d) Planned engine start time.

16. What is the radiotelephony call sign for the aeronautical station indicating approach control radar arrivals?

- a) ...ARRIVAL
- b) ...DIRECTOR
- c) ...RADAR
- d) ...APPROACH

17. The pendulum type detector system of the directional gyro feeds:

- a) A torque motor on the sensitive axis
- b) A nozzle integral with the outer gimbal ring
- c) 2 torque motors arranged horizontally
- d) A levelling erection torque motor

18. The most common extinguishing agent used in gas turbine engine fire protection system is:

- a) Co2
- b) Water
- c) Powder
- d) Halon

19. At constant fuel flow, if engine compressor air is bled off for engine anti-icing or a similar system, the turbine temperature:

- a) May Rise Or Fall Depending On Which Stage Of The Compressor Is Used For The Bleed And The Rpm Of The Engine At The Moment Of Selection.
- b) Will rise.
- c) Will fall.
- d) Will Be Unchanged.

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20. Altimeter setting (change during climb) On flights in accordance with IFR, the change of the altimeter setting from QNH to Standard shall be made at the:

- a) Transition altitude.
- b) Level specified by A
- c) Transition level.
- d) Transition layer.

21. The centre of gravity near, but still within, the aft limit:

- a) Increases the stalling speed
- b) Improves the longitudinal stability
- c) Improves the maximum range
- d) Decreases the maximum range

22. During a transoceanic and polar flight, the chart precession is a rotation in degrees, for a moving aircraft, of the gyro North with respect to the:

- a) True North for a given chart
- b) Grid North for any chart
- c) True North for any chart
- d) Grid North for a given chart

23. The centre of gravity location of the aeroplane is normally computed along the:

- a) Longitudinal axis.
- b) Horizontal axis.
- c) Lateral axis.
- d) Vertical axis.

24. An aeroplane is performance limited to a landing mass of 54230 kg. The Dry Operating Mass is 35000 kg and the zero fuel mass is 52080 kg. If the take-off mass is 64280 kg the useful load is

- a) 29280 kg.
- b) 10080 kg.
- c) 12200 kg.
- d) 17080 kg

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25. For an aeroplane with a tyre pressure of 14 bars, there is a risk of dynamic hydroplaning as soon as the:

- a) Water depth is equal to the half of the depth of the tyre grooves.
- b) Tail wind is greater than 10 kt.
- c) Speed is greater than 95 kt.
- d) Speed is greater than 129 kt.

26. On a given path, it is possible to choose between four flight levels (FL), each associated with a mandatory flight Mach Number (M). The flight conditions, static air temperature (SAT) and headwind component (HWC) are given below: FL 370 - M = 0.80 Ts = -60°C HWC = -15 kt FL 330 - M = 0.78 Ts = -60°C HWC = -5 kt FL 290 - M = 0.80 Ts = -55°C HWC = -15 kt FL 270 - M = 0.76 Ts = -43°C HWC = 0 The flight level allowing the highest ground speed is:

- a) FL290
- b) FL270
- c) FL370
- d) FL330

27. Advection is:

- a) Horizontal motion of air
- b) The same as convection
- c) The same as subsidence
- d) Vertical motion of air

28. In the 'worst case' scenario of recovery from the effects of a microburst, having increased to full go-around power, in co-ordinating power and pitch it may be necessary to:

- a) Increase the pitch angle until the stick shaker is felt and hold at slightly below this angle
- b) Slowly increase speed whilst maintaining a positive rate of climb
- c) Reduce speed to V2 and hold
- d) Climb away at Vat + 20 kt

29. When the centre of gravity is at the forward limit, an aeroplane will be:

- a) Extremely stable and require small elevator control to change pitch.
- b) Extremely stable and will require excessive elevator control to change pitch.
- c) Extremely unstable and require small elevator control to change pitch.
- d) Extremely unstable and require excessive elevator control to change pitch.

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30. Entering the stall the centre of pressure of a straight (1) wing and of a strongly swept back wing (2) will:

- a) (1) not move (2) move forward
- b) (1) move aft, (2) move aft
- c) (1) move aft, (2) not move
- d) (1) move aft, (2) move forward

31. Which word or phrase shall be used to indicate a separation between portions of a message?

- a) I say again
- b) Stop
- c) Over
- d) Break

32. What is the main cause for the formation of a polar front jet stream?

- a) The pressure difference, close to the ground, between a high over the Azores and a low over Iceland
- b) The varied elevations of the tropopause in the polar front region
- c) The north-south horizontal temperature gradient at the polar front
- d) Strong winds in the upper atmosphere

33. The climb gradient of an aircraft after take-off is 6% in standard atmosphere, no wind, at 0' pressure altitude. Using the following corrections: $\pm 0.2\%$ / 1000' field elevation $\pm 0.1\%$ / °C from standard temperature $- 1\%$ with wing anti-ice $- 0.5\%$ with engine anti-ice The climb gradient after take-off from an airport situated at 1000', 17°C

- a) QNH 1013.25 hPa, with wing and engine anti-ice operating for a functional check is:
- b) 4.7 %
- c) 4.3 %
- d) 4.9 %

34. Which body of ICAO finalises the Standard and Recommended Practices (SARPS) for submission for adoption?

- a) The Air Navigation Commission
- b) The Regional Air Navigation meeting
- c) The Council
- d) The Assembly

Simulazione di Esame

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35. A class B fire is a fire of:

- a) Solid material usually of organic nature
- b) Electrical source fire
- c) Liquid or liquefiable solid
- d) Special fire: metal, gas, chemical product

36. A pallet having a freight platform which measures 200 cm x 250 cm has a total mass of 300 kg. The pallet is carried on two ground supports each measuring 20 cm x 200 cm. Using the loading manual for the transport aeroplane, calculate how much mass may be added to, or must be off loaded from, the pallet in order for the load intensity to match the maximum permitted distribution load intensity for lower deck forward cargo compartment.

- a) 28.5 kg must be off loaded.
- b) 28.5 kg may be added.
- c) 285.5 kg may be added.
- d) 158.3 kg must be off loaded.

37. What is the correct action to counteract vertigo?

- a) Reduce rate of breathing until all symptoms disappear, then breathe again normally
- b) Believe the instruments
- c) Rely on the information from the semicircular canals, since these will be transmitting correct information
- d) Concentrate on the vertical speed indicator

38. 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)?

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

39. What is the position of the elevator in relation to the trimmable horizontal stabiliser of a power assisted aeroplane that is in trim?

- a) The elevator deflection (compared to the stabilizer position) is always zero.
- b) At a forward CG the elevator is deflected upward and at an aft CG the elevator is deflected downward.
- c) The position depends on speed, the position of slats and flaps and the position of the centre of gravity.
- d) The elevator is always deflected slightly downwards in order to have sufficient remaining flare capability.

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40. An aircraft is weighed prior to entry into service. Who is responsible for deriving the Dry Operational Mass from the weighed mass by the addition of the 'operational items' ?

- a) The Operator.
- b) The commander of the aircraft.
- c) The aircraft manufacturer or supplier.
- d) The appropriate Aviation Authority.

41. The time needed for the dissipation of a turbulent wake created by a wide-body aircraft during take-off is about:

- a) 30 seconds.
- b) 3 minutes.
- c) 10 minutes.
- d) 1 minute.

42. 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

43. When independent parallel approaches are being conducted to parallel runways and vectoring to intercept the ILS localizer course or MLS final approach track, the vector shall be such as to enable the aircraft to be established on the ILS localizer course or MLS final approach track in level flight for:

- a) At least 1.5 NM prior to intercepting the ILS glide path or specified MLS elevation angle
- b) At least 3.0 NM prior to intercepting the ILS glide path or specified MLS elevation angle
- c) At least 2.5 NM prior to intercepting the ILS glide path or specified MLS elevation angle
- d) At least 2.0 NM prior to intercepting the ILS glide path or specified MLS elevation angle

44. When an aircraft station receives the call 'ALL STATIONS Stephenville RADAR, stop transmitting MAYDAY' it is requested:

- a) Not to interfere with the distress communication.
- b) To leave the frequency in use.
- c) To assist Stephenville RADAR in handling the distress traffic.
- d) To continue normal communication on the frequency in use.

Simulazione di Esame

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45. Fastair 345 has been instructed to contact Stephenville ARRIVAL on frequency 118.0. What is the correct way to indicate it will follow this instruction:

- a) Changing over Fastair 345
- b) Changing to ARRIVAL Fastair 345
- c) 118.0 Fastair 345
- d) Stephenville ARRIVAL Fastair 345

46. In order to indicate unlawful interference with the planned operation of the flight, the aircraft Secondary Surveillance Radar (SSR) transponder should be selected to:

- a) 7600
- b) 7500
- c) 7000
- d) 7700

47. Inertial Reference System sensors include:

- a) Belmullet aerodrome
- b) Carnmore aerodrome
- c) EAGLE ISLAND LT.H. NDB
- d) Clonbullogue aerodrome[see Annex]

48. Which of the following abbreviated call signs of Cherokee XY-ABC is correct:

- a) Cherokee XY-BC
- b) Cherokee BC
- c) Cherokee X-ABC
- d) Cherokee X-BC

49. In mass and balance calculations which of the following describes the datum?

- a) It is the most forward position of the centre of gravity.
- b) It is the most aft position of the centre of gravity.
- c) It is the point on the aircraft designated by the manufacturers from which all centre of gravity measurements and calculations are made.
- d) It is the distance from the centre of gravity to the point through which the weight of the component acts.

Simulazione di Esame

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50. What is the heading bug selected to?

- a) 272°(M)
- b) 260°(M)
- c) 300°(M)
- d) FL50

51. The elements which take part in the local vertical alignment of an inertial strap-down unit are:

- a) The accelerometers and gyroscopes.
- b) The flow inductors.
- c) The accelerometers.
- d) The gyroscopes.

52. The maximum permissible take-off mass of an aircraft for the L wake turbulence category on an ATC flight plan is:

- a) 2 700 kg
- b) 7 000 kg
- c) 10 000 kg
- d) 5 700 kg

53. Assuming gross mass, altitude and airspeed remain unchanged, movement of the centre of gravity from the forward to the aft limit will cause:

- a) Increased cruise range
- b) Reduced maximum cruise range
- c) Lower optimum cruising speed
- d) Higher stall speed

54. Which of the following meteorological phenomenon indicates upper level instability which may lead to thunderstorm development ?

- a) AC lenticularis.
- b) AC castellanus.
- c) Red cirrus.
- d) Halo.

Simulazione di Esame

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55. In still air the temperature decreases at an average of 1.2°C per 100 m increase in altitude. This temperature change is called:

- a) Saturated adiabatic lapse rate
- b) Environmental lapse rate
- c) Normal lapse rate
- d) Dry adiabatic lapse rate

56. A straight line is drawn on a Lamberts conformal conic chart between two positions of different longitude. The angular difference between the initial true track and the final true track of the line is equal to:

- a) Conversion angle
- b) Earth convergency
- c) Difference in longitude
- d) Chart convergency

57. What does the term 'blind transmission' mean?

- a) A transmission of information relating to air navigation that is not addressed to a specific station or stations.
- b) A transmission from one station to another station in circumstances where two-way communication cannot be established but it is believed that the called station is able to receive the transmission.
- c) A transmission where no reply is required from the receiving station.
- d) A transmission of messages relating to en-route weather information which may affect the safety of aircraft operations that is not addressed to a specific station or stations.

58. Radar controlled aircraft on intermediate or final approach may be requested to make minor speed adjustments by ATC. These adjustments shall never be more than:

- a) 10 knots and not within 5 NM of threshold
- b) 20 knots and not within 4 NM of threshold
- c) These adjustments shall never be more than: 10 knots and not within 5 NM of threshold 20 knots and not within 4 NM of threshold 25 knots at any stage
- d) 15 knots at any stage

59. Under normal circumstances, which gas will diffuse from the blood to the alveoli:

- a) Carbon dioxide
- b) Oxygen
- c) Nitrogen
- d) Carbon monoxide

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60. In relation to Area Navigation Systems (RNAV), which of the following is an Air Data input?

- a) VOR/DME radial/distance
- b) Inertial Navigation System (INS) position
- c) Doppler drift
- d) 760

61. What are the propagation characteristics of VHF:

- a) Practically straight-line similar to light waves
- b) Similar to short waves with practically no atmospheric disturbance
- c) The waves travel along the surface of the earth and penetrate into valleys in a way that topographical obstacles have no influence
- d) The waves are reflected at the ionosphere at the height of about 100 km and reach the earth surface in the form of sky-waves

62. In accordance with JAR-OPS 1 and if necessary, the number of life rafts to be carried on board an aeroplane must allow the transportation of the entire aeroplane occupants:

- a) Plus 10 %.
- b) In the case of a loss of one raft of the largest rated capacity.
- c) Plus 30 %.
- d) Plus 30 %.

63. Given: Distance A to B is 360 NM. Wind component A - B is -15 kt, Wind component B - A is +15 kt, TAS is 180 kt. What is the distance from the equal-time-point to B?

- a) Straight lines regardless of distance
- b) Curves concave to the pole of projection
- c) Curves concave to the parallel of origin
- d) Straight lines within the standard parallels

64. When engaged in the lateral navigation mode (LNAV) the autopilot uses:

- a) The FMS active (TO) waypoint coordinates.
- b) The FMS computation of the aircraft position and the FMS active (TO) waypoint bearing.
- c) The FMS roll or heading command.
- d) The FMS path angle command.

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65. ETOPS flight is a twin engine jet aeroplane flight conducted over a route, where no suitable airport is within an area of:

- a) 60 minutes flying time in still air at the normal cruising speed
- b) 30 minutes flying time at the normal cruising speed
- c) 60 minutes flying time in still air at the approved one engine out cruise speed
- d) 75 minutes flying time at the approved one engine out cruise speed

66. In which of the following areas is the highest frequency of thunderstorms encountered ?

- a) Polar
- b) Subtropical
- c) Tropical
- d) Temperate

67. Which word or phrase shall be used in order to repeat for clarity or emphasis?

- a) Confirm
- b) Read back
- c) I say again
- d) Verify

68. Air passes a normal shock wave. Which of the following statements is correct?

- a) The static temperature increases
- b) The velocity increases
- c) The static temperature decreases
- d) The static pressure decreases

69. Which of the following factors will lead to an increase of ground distance during a glide, while maintaining the appropriate minimum glide angle speed?

- a) Increase of aircraft mass
- b) Decrease of aircraft mass
- c) Tailwind
- d) Headwind

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70. Given: Magnetic heading = 255° VAR = 40° WGS = 375 kt W/V = 235°(T) / 120 kt Calculate the drift angle?

- a) 6° right
- b) 9° left
- c) 6° left
- d) 3° left

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Schema Risposte

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

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