

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

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NOME ALLIEVO:	DATA & ORA:
surfaces of similar metals. 2 - ensure zero volta	of an aircraft is to:1 - prevent electrolytic corrosion between mating age difference between aircraft components.3 - isolate all rth for electrical devices.The combination that regroups all of the
a) 2, 3.	
b) 1, 4.	
c) 1, 3.	
d) 2, 4.	
02. Given:Pressure Altitude 29000 FT, OAT -55°	C.Calculate the Density Altitude?
a) 33500 FT	
b) 31000 FT	
c) Calculate the Density Altitude? 33500 FT 31000	FT 26000 FT
d) 27500 FT	
03. When completing an ATC flight plan for a fli letters entered in Item 8 (FLIGHT RULES) would	ight commencing under IFR but possibly changing to VFR, the
a) G	
b) N/S	
c) X	
d) Y	
04. Following a take-off determined by the 50' (1 climb gradient.lt will clear a 900 m high obstacle the 50' clearing point with an obstacle clearance	15 m) screen height, a light twin climbs on a 10% over-the-ground e in relation to the runway (horizontally), situated at 10000 m from e of:
a) 100 m	
b) 115 m	
c) It will not clear the obstacle	
d) 85 m	



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05	The landing field length required for	r turbojet aeroplanes at the	destination (wet con	dition) is the demonstrated
lar	ding distance plus:			

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

06. For the purpose of completing the Mass and Balance documentation, the Operating Mass is considered to be Dry Operating Mass plus

- a) Ramp (Block) Fuel Mass.
- b) Trip Fuel Mass.
- c) Take-off Fuel Mass.
- d) Ramp Fuel Mass less the fuel for APU and run-up.

07. A four jet-engine aeroplane (mass = 150 000 kg) is established on climb with all engines operating. The lift-to-drag ratio is 14.Each engine has a thrust of 75 000 Newton. The gradient of climb is: (given: g= 10 m/s 2)

- a) 27%.
- b) 1.286%.
- c) 7.86%.
- d) 12.86%.

08. Continuous loop fire detector systems operate on the principle that an increase in temperature produces:

- a) An Increase In Resistance
- b) A decrease in resistance
- c) A decrease in pressure
- d) A Decrease In The Reference Current

09. Which of the following correctly describes the Instrument Landing System (ILS) localiser radiation pattern?

- a) A pencil beam comprising a series of smaller beams each carrying a different modulation
- b) Two overlapping lobes on the same UHF carrier frequency
- c) Two overlapping lobes on different radio carrier frequencies but with the same modulation
- d) Two overlapping lobes on the same VHF carrier frequency



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10. In accordance with IR-OPS (Aerodrome Operating Minima), an operator must ensure that system minima for 'non-precision approach procedures', which are based upon the use of ILS without glidepath (LLZ only), MLS, GLS, VOR/DME, NDB, SRA, and VDF are no lower than MDH following value with:

- a) VOR facility, lowest MDH=250 ft
- b) ILS facility without glidepath (localizer) lowest MDH=200 ft
- c) VOR/DME facility, lowest MDH=300 ft
- d) NDB facility, lowest MDH=350 ft

11. On an aircraft, the Krueger flap is a:

- a) Trailing Edge Flap Close To The Wing Tip
- b) Leading edge flap
- c) Trailing Edge Flap
- d) Leading Edge Flap Close To The Wing Tip

12. What is the radiotelephony call sign for the aeronautical station indicating area control centre (no radar)?

- a) ...CONTROL
- b) ...RADAR
- c) ...APPROACH
- d) ...CENTRE

13. The MNPS (Minimum Navigation Performance Specification) airspace extends vertically between flight levels:

- a) 285 and 420
- b) 275 and 400
- c) 280 and 390
- d) 280 and 400

14. AbbreviationsWhat does the abbreviation OIS mean? (Doc 8168)

- a) Obstacle in surface.
- b) Obstacle identification surface.
- c) Obstruction in surface.
- d) Obstacle identification slope.



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15. With zero wind, the angle of attack for maximum range for an aeroplane with turbojet engines is:

- a) Lower than the angle of attack corresponding to maximum endurance
- b) Equal to the angle of attack corresponding to maximum lift to drag ratio
- c) Equal to the angle of attack corresponding to zero induced drag
- d) Equal to the angle of attack corresponding to maximum endurance

16.	The	diameter	of the	Earth is	s ap	proximatel	y:
-----	-----	----------	--------	----------	------	------------	----

- a) 12 700 km
- b) 40 000 km
- c) 18 500 km
- d) 6 350 km

17. Which of the following sequences shows the correct elements of a position report in the correct order? 1) call sign 2) reported position 3) heading (°M) 4) level or altitude 5) next position 6) ETA of the next position7) aircraft type8) time of reported position

- a) 1, 2, 3, 4, 5, 6
- b) 1, 2, 8, 4, 5, 6,
- c) 1, 7, 2, 6, 4
- d) 1, 2, 4, 5, 6

18. On a polar stereographic chart whose grid is parallel with the Greenwich meridian in the direction of the true North pole, the 'true' orientation of the great circle linking point 62N 010E to point 66N 050W is 305. The grid route at the starting point of this great circle is:

- a) 301
- b) 298
- c) 292
- d) 295



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19. When flying in accordance with IFR, which of the following best describes the term 'Visual approach'?

- a) A visual manoeuvre executed by an IFR flight when the weather conditions at the aerodrome of destination are equal to or better than required VMC minima
- b) An approach executed by an IFR flight unable to maintain VMC
- c) An extension of an instrument approach procedure to bring an aircraft into position for landing on a runway which is not suitably located for straight-in-approach
- d) An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain

20. The climb gradient of an aircraft after take-off is 6% in standard atmosphere, no wind, at 0' pressure altitude. Using the following corrections: '± 0.2 % / 1000' field elevation" ± 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 %

21. At what approximate date is the Earth furthest from the Sun (aphelion)?

- a) Beginning of July
- b) End of September
- c) Beginning of January
- d) End of December

22. Torque can be determined by measuring the computed:

- a) Oil pressure at the fixed crown of an epicycloidal reducer of the main engine gearbox.
- b) Phase difference between 2 impulse tachometers attached to a transmission shaft.
- c) Frequency of an impulse tachometer attached to a transmission shaft.
- d) Quantity of light passing through a rack-wheel attached to a transmission shaft.

23. The Flight Management Computer (FMC) position is:

- a) The actual position of the aircraft at any point in time
- b) The same as that given on the No. 1 IRS
- c) The computed position based on a number of sources (IRS, Radio, ILS, GPS etc)
- d) Clear air turbulence

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24. In case of supersonic flow retarded by a normal shock wave a high efficiency (low loss in total pressure) can be obtained if the Mach number in front of the shock is

- a) Lower than 1.
- b) High (supersonic).
- c) Exactly 1.
- d) Small but still supersonic.

25. An aeroplane's weighing schedule indicates that the empty mass is 57320 kg. The nominal Dry Operating Mass is 60120 kg and the Maximum Zero Fuel Mass is given as 72100 kg. Which of the following is a correct statement in relation to this aeroplane?

- a) Operational items have a mass of 2800 kg and the maximum traffic load for this aeroplane is 11980 kg.
- b) Operational items have a mass of 2800 kg and the maximum useful load is 14780 kg.
- c) Operational items have a mass of 2800 kg and the maximum useful load is 11980 kg.
- d) Operational items have a mass of 2800 kg and the maximum traffic load for this aeroplane is 14780 kg.

26. An aircraft is on radial 120 with a magnetic heading of 300°, the track selector (OBS) reads:330. The indications on the Course Deviation Indicator (CDI) are 'fly':

- a) Left with 'TO' showing
- b) Left with 'FROM' showing
- c) Right with 'FROM' showing
- d) 180°

27. From your cruising altitude at FL 240, you want to descend to flight level 100. Your transmission to the radar controller is:

- a) Request descent to flight level one-zero-zero
- b) We would like to start descent to flight level one-zero-zero
- c) Request to descend one-hundred
- d) Request flight level one-hundred

28. Which frequency band is used by VOR transmissions?

- a) SHF
- b) UHF
- c) VHF
- d) PRN occurs in the receiver. It is caused by the signal from one satellite being received from different directions (multipath effect)

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29. How shall a pilot ask for a QFE?

- a) Request Queen Fox Easy
- b) Request Quebec Foxtrot Echo
- c) Request Quebec Fox Echo
- d) Request Quebec Fox Easy

30. A "Bourdon tube" is used in:

- a) Smoke detectors.
- b) Vibration detectors.
- c) Turbine temperature probes.
- d) Pressure sensors.

31. What does the phrase 'break break' mean?

- a) It indicates the separation between portions of a message transmitted to an aircraft station
- b) It indicates the separation between messages transmitted to different aircraft in a very busy environment
- c) My transmission is ended and I expect a response from you
- d) The exchange of transmissions is ended and no response is expected

32. An aeroplane carries out a descent from FL 410 to FL 270 at cruise Mach number, and from FL 270 to FL 100 at the IAS reached at FL 270. How does the angle of descent change in the first and in the second part of the descent? Assume idle thrust and clean configuration and ignore compressibility effects.

- a) Increases in the first part
- b) is constant in the second.
- c) Is constant in the first part
- d) Decreases in the second.

33. Primary flight controls are:

- a) Ailerons, Elevators, Rudder And Flaps.
- b) Control Wheel Or Stick, Rudder Pedals, Flap Lever And Throttle.
- c) Control Wheel Or Stick, Rudder Pedals And Speed Brake.
- d) Ailerons, elevators and rudder.



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34. According to the JAR OPS 1, when a commercial transport passenger aircraft is equipped with a door in the flight crew compartment area, this door must include:

- a) A device preventing the flight crew from being locked in the cockpit.
- b) A locking system to prevent any unauthorized access.
- c) A sealing system which, in case of depressurisation in the compartment area allows the maintenance of the pressure in the cockpit for as long as possible.
- d) Distinctive red or yellow coloured markings indicating the access area (in case of a blocked door).

35. When an aircraft is no longer in distress, it shall transmit a message cancelling the distress condition. Which words shall this message include?

- a) ... MAYDAY, resuming normal operations
- b) ... MAYDAY cancelled
- c) ... cancel distress
- d) ... distress condition terminated

36. The navigation plan reads: Trip fuel: 100 kgFlight time: 1h35min Taxi fuel: 3 kgBlock fuel: 181 kgThe endurance on the ICAO flight plan should read:

- a) 2h 49min
- b) 2h 52min
- c) 2h 04min
- d) 1h 35min

37. Given the following: Magnetic heading: 060° Magnetic variation: 8°W Drift angle: 4° right What is the true track?

- a) 056°
- b) 072°
- c) 048°
- d) 064°

38. A microburst phenomenon can arise in the

- a) Updraught of a cumulonimbus at the mature stage.
- b) Downdraught of a cumulonimbus at the formation stage.
- c) Downdraught of a cumulonimbus at the mature stage.
- d) Updraught of a cumulonimbus at the growth stage.



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39. The limits of the green scale of an airspeed indicator are:

- a) VS1 for the lower limit and VNE for the upper limit
- b) VS0 for the lower limit and VNO for the upper limit
- c) VS1 for the lower limit and VLO for the upper limit
- d) VS1 for the lower limit and VNO for the upper limit

40.	Given:true track is 348°,	drift 17	° left.variation 32°	W. deviation	4°E.What is the co	ompass headin	a?

- a) 033°
- b) 337°
- c) 359°
- d) 007°

41. Which of the following statements concerning the L1 and L2 NAVSTAR/GPS transmission frequencies and codes is correct?

- a) The higher frequency is only used to transmit the P code
- b) C/A and P codes are transmitted at different times on both frequencies
- c) The lower frequency is used to transmit both the C/A and P codes
- d) The higher frequency is used to transmit both the C/A and P codes

42. For turbojet engine driven aeroplane, given: Taxi fuel 600 kgFuel flow for cruise 10000 kg/h Fuel flow for holding 8000 kg/h Alternate fuel 10200 kgPlanned flight time to destination 6 h Forecast visibility at destination 2000 m The minimum ramp fuel required is:

- a) 76100 kg
- b) 80500 kg
- c) 77800 kg
- d) 79200 kg

43. On an aircraft provided with resistance and capacitance variation type fire detection loops, a fire alarm is initiated by a temperature increase detected:

- a) Only At An Isolated Point Of The Loops
- b) Only in a uniform way along the loops
- c) At any isolated point of the loops or else generally on all the loops
- d) On At Least One Loop



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44. The pitching moment versus angle of attack line in the diagram, which corresponds to a CG located at the neutral point of of a given aeroplane at low and moderate angles of attack is:
a) Line 2.
b) Line 1.
c) Line 4.
d) Line 3.
45. If VOR bearing information is used beyond the published protection range, errors could be caused by:
a) Sky wave interference from the same transmitter
b) Noise from precipitation static exceeding the signal strength of the transmitter
c) Sky wave interference from distant transmitters on the same frequency
d) Interference from other NDBs, particularly at night
46. Two points A and B are 1000 NM apart. TAS = 490 kt.On the flight between A and B the equivalent wind is -20 kt.On the return leg between B and A, the equivalent wind is +40 kt.What distance from A, along the route A to B, is the Point of Equal Time (PET)?
a) 600 kt
b) 435 kt
c) 450 kt
d) 535 kt
47. When an aircraft has sustained damage, the aircraft shall be allowed to resume its flight, if
a) The state of registry, the state of design and the state of manufacture consider that the aircraft is still airworthy
b) The state of registry considers that the damage sustained is of a nature such that the aircraft is still airworthy
c) The state of design and the state of manufacture inform the state of registry that the aircraft is still airworthy
d) The state of manufacture informs the state of registry that the damage sustained is of a nature such that the aircraft is still airworthy
48. An aeroplane has the following masses: ESTLWT= 50 000 kgTrip fuel= 4 300 kg Contingency fuel= 215 kgAlternate fuel (final reserve included)= 2 100kg Taxi= 500 kgBlock fuel= 7 115 kgBefore departure the captain orders to make the block fuel 9 000 kg. The trip fuel in the operational flight plan should read:
a) 6 185 kg.
b) 9 000 kg.

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c) 4 300 kg.d) 6 400 kg.



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49. The use of a slot in the leading edge of the wing enables the aeroplane to fly at a slower speed because:

- a) The laminar part of the boundary layer gets thicker
- b) It decelerates the upper surface boundary layer air
- c) It delays the stall to a higher angle of attack
- d) It changes the camber of the wing

50. 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]

51. Which of the following errors is associated with the use of VOR?

- a) Coastal refraction.
- b) Scalloping.
- c) Night effect.
- d) Quadrantal error.

52. The block diagram of an auto-pilot is shown in the annex. For each control channel (pitch, roll and yaw) the piloting law is the relationship between the deflection of the control surface commanded by the computer (BETA c) and the:

- a) Pilot command E.
- b) Aircraft response S.
- c) Offset EPSILON at the computer input.
- d) Real deflection of the control surface (BETA control surface feedback).

53. Which of the following statements about the stall of a straight wing aeroplane is correct?

- a) Just before the stall the aeroplane will be have an increased nose-down tendency
- b) The horizontal tail will stall at a higher speed than the wing
- c) The nose down effect is the result of increasing downwash, due to flow separation
- d) Buffeting is the result of tailplane flow separation



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54. You are flying at FL 300 where the outside air temperature is -57,5°C and the pressure at MSL is 1013,25 hPa. If	
you assume that the difference between the actual temperature and the temperature in the ISA is valid for the whole	•
troposphere, then the true altitude is:	

- a) 30.000 ft
- b) 27.000 ft
- c) 31.500 ft
- d) 28.500 ft

55. What are the various factors which guide attention ?1. The level of automation of behaviour2. Response time3. The salience of the information4. Expectations

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

56. Urgency is defined as:

- a) A condition concerning the safety of an aircraft other vehicles or of a person on board, but which does not require immediate assistance
- b) A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance
- c) A condition concerning the attitude of an aircraft when intercepting the localizer during an ILS approach
- d) A condition concerning the safety of a person on board or within sight and requiring immediate assistance

57. GPS system satellites transmit their signals on two carrier waves 1575 MHz and 1227 MHz and supply two possible codes accessible according to user (civil or military). Commercial aviation is now able to use:

- a) Only the 1575 MHz carrier wave and two codes
- b) Only the 1227 MHz carrier wave and one code
- c) The two carrier waves and one public code
- d) SHF

58. For an ATC flight plan filed before the flight, the indicated time of departure is:

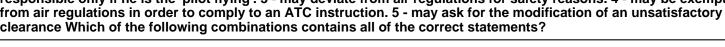
- a) The time at which the flight plan is filed.
- b) The estimated off-block time
- c) The time overhead the first reporting point after take-off.
- d) The time of take-off.



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59. The pilot in command of an aircraft 1 - must comply immediately to all instructions received from ATC. 2 - is
responsible only if he is the 'pilot flying'. 3 - may deviate from air regulations for safety reasons. 4 - may be exempt
from air regulations in order to comply to an ATC instruction. 5 - may ask for the modification of an unsatisfactory
clearance Which of the following combinations contains all of the correct statements?



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

60. ATT Mode of the Inertial Reference System (IRS) is a back-up mode providing:

- a) 40 NM
- b) 30 NM
- c) 60 NM
- d) 50 NM

61. Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of a State, which language must be used on the transport document in addition to any other language?

- a) Spanish
- b) French
- c) English, French, Spanish, Russian, Chinese
- d) English

62. Excessive priming of a piston engine should be avoided because: 1. it drains the carburettor float chamber. 2. the risk of engine fire.3. the risk of flooding the engine.4. it fouls the spark plugs. The combination that regroups all of the correct statements is:

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



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63. In order to provide an adequate 'buffet boundary' at the commencement of the cruise a speed of 1.3 Vs is used. At a mass of 120000 kg this is a CAS of 180 KT. If the mass of the aeroplane is increased to 135000 kg the value of 1.3 Vs will be:

- a) Increased to 191 KT, drag will increase and air distance per kg of fuel will decrease.
- b) Increased to 202 KT but, since the same angle of attack is used, drag and range will remain the same.
- c) Increased to 191 KT, drag will decrease and air distance per kg of fuel will increase.
- d) Unaffected as Vs always occurs at the same angle of attack.

64. The command bars of a flight director:

- a) Are displayed only when flying manually.
- b) Are displayed only when the autopilot is engaged.
- c) May be displayed when flying manually or with the autopilot engaged.
- d) Are always displayed during take-off.

65. By the term "transit" of a heavenly body it is understood that:

- a) The body is moving.
- b) The body is passing the meridian of the observer or another specified meridian.
- c) The body is passing the anti-meridian of the observer.
- d) The body is at the same celestial as another body.

66. The minimum radar separation to be provided to aircraft established on the localizer course shall be:

- a) 3.0 NM between aircraft on adjacent localizer course.
- b) 3.0 NM between aircraft on the same localizer course.
- c) 5.0 NM between aircraft on the same localizer course.
- d) 2.0 NM between aircraft on the same localizer course.

67. At an aeroplane's minimum drag speed, what is the ratio between induced drag Di and parasite drag Dp? Di / Dp

- a) It varies between aeroplane types.
- b) 2/1
- c) 1/1
- d) 1/2

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68. 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

69. A descent is planned from 7500 ft AMSL so as to arrive at 1000 ft AMSL 6 NM from a VORTAC. With a GS of 156 kts and a rate of descent of 800 ft/min. The distance from the VORTAC when descent is started is:

- a) 15,0 NM
- b) 27,1 NM
- c) With a GS of 156 kts and a rate of descent of 800 ft/min. The distance from the VORTAC when descent is started is: 15,0 NM 27,1 NM 30,2 NM
- d) 11,7 NM

70. How should an ATS unit instruct Fastair 345 to contact Stephenville RADAR on frequency 132.0083 (8.33 KHz frequency spacing)?

- a) Fastair 345 contact Stephenville RADAR channel 132.0083
- b) Fastair 345 contact Stephenville RADAR channel 132.010
- c) Fastair 345 contact Stephenville RADAR on 132.0083
- d) Fastair 345 contact Stephenville RADAR 132.010



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Schema Risposte

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

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