

Simulazione di Esame

Mass and Balance - ATPL - Airline Transport Pilot license, 70 domande in 70 minuti!



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NOME ALLIEVO:

DATA & ORA:

01. True Air Speed (TAS) is equal to Equivalent Air Speed (EAS) only if:

- a) $P = 1013,25$ hPa, OAT = 15°C and TAS > 200 kt.
- b) $P = 1013,25$ hPa and OAT = 273°K .
- c) $P = 1013,25$ hPa, OAT = 15°C and TAS
- d) $P = 1013,25$ hPa and OAT = 15°

02. 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

03. What is synergy in a crew ?

- a) The coordinated action of unrelated individual performances in achieving a non-standard task
- b) A behavioural expedient associated with the desynchronisation of the coordinated actions
- c) The uncoordinated action of the crewmembers towards a common objective
- d) The coordinated action of all members towards a common objective, in which collective performance is proving to be more than the sum of the individual performances

04. A system providing information on Rules of the Air, Air Traffic Services and Air Navigation Procedures and distributed in advance of its effective date is known as:

- a) AIRA
- b) An Advisory NOTAM.
- c) An Advisory NOTAM. an ATS NOTAM.
- d) A NOTAM RA

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05. What is the wavelength of an NDB transmitting on 375 kHz?

- a) 800 m
- b) 8 m
- c) 80 m
- d) The data is based on the direction to the satellite determined at the location of the antenna

06. Given the following: D = flight distance X = distance to Point of Equal Time GSo = groundspeed out GSr = groundspeed return The correct formula to find distance to Point of Equal Time is:

- a) $X = (D/2) \times GSo / (GSo + GSr)$
- b) $X = D \times GSo / (GSo + GSr)$
- c) $X = (D/2) + GSr / (GSo + GSr)$
- d) $X = D \times GSr / (GSo + GSr)$

07. Which of the following is correct regarding false beams on a glide path?

- a) False beams will only be found more than 10 degrees to the left or to the right of the localiser centreline.
- b) False beams are only present when flying a back-beam ILS approach.
- c) False beams will only be found above the correct glide path.
- d) False beams will only be found below the correct glide path.

08. When faced with sustained cold temperature, how does the body resist this physical stress?

- a) By speeding up the metabolic rate in the Autonomic Nervous System
- b) By vasodilatation which permits a greater flow of blood to the periphery
- c) By increasing cardiac frequency
- d) By intense vasoconstriction

09. The ground - air visual signal code for use by survivors on ground to indicate "AFIRMATIVE" is (search and rescue signals):

- a) Y
- b) V
- c) X
- d) N

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10. What is the chart distance between longitudes 179°E and 175°W on a direct Mercator chart with a scale of 1: 5 000 000 at the equator?

- a) 106 mm
- b) 167 mm
- c) 133 mm
- d) 72 mm

11. What does the term 'Expected Approach Time' mean:

- a) The time at which an arriving aircraft, upon reaching the radio aid serving the destination aerodrome, will commence the instrument approach procedure for a landing
- b) The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding point to complete its approach for a landing
- c) The holding time over the radio facility from which the instrument approach procedure for a landing will be initiated
- d) The time at which an arriving aircraft expects to arrive over the appropriate designated navigation aid serving the destination aerodrome

12. Which elements of instructions or information shall always be read back ?

- a) Runway-in-use, altimeter settings, SSR codes, level instructions, heading and speed instructions
- b) Time check, runway-in-use, altimeter settings, level instructions, SSR codes
- c) Surface wind, visibility, ground temperature, runway-in-use, altimeter settings, heading and speed instructions
- d) Runway-in-use, visibility, surface wind, heading instructions, altimeter settings

13. A load placed forward of the datum

- a) Has a negative arm and therefore generates a negative mass and moment
- b) Has a positive arm and therefore generates a positive mass and moment
- c) Has a negative arm and therefore generates a negative moment
- d) Has a positive arm and therefore generates a positive moment

14. Rudder trim adjustment in an aeroplane with irreversible flight controls is:

- a) An Adjustment Of The Rudder Ratio Changer.
- b) An adjustment of the zero force rudder position.
- c) Unnecessary Because This Aeroplane Does Not Need Rudder Trim.
- d) An Adjustment Of The Rudder Trim Tab.

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15. An aircraft may be weighed

- a) In an area of the airfield set aside for maintenance.
- b) In a quiet parking area clear of the normal manoeuvring area.
- c) At a specified 'weighing location' on the airfield.
- d) In an enclosed, non-air conditioned, hangar.

16. You may act as a flight instructor to carry out flight instruction for the issue of a PPL

- a) With a PPL plus CPL theory
- b) With a PPL plus flight instructor rating
- c) With a valid licence plus flight instructor rating
- d) With a CPL

17. To be able to predict compressibility effects you have to determine the:

- a) Mach Number
- b) IAS
- c) TAS
- d) EAS

18. On the readability scale what does 'readability 1' mean?

- a) Readable
- b) Perfectly readable
- c) Unreadable
- d) Readable but with difficulty

19. See Flight Planning Manual MRJT 1 Figure 4.5.2 and 4.5.3.4 Given: Distance B - C: 350 NM Cruise 300 KIAS at FL 210 Temperature: - 40°C Tailwind component: 70 kt Gross mass at B: 53 200 kg The fuel required from B - C is:

- a) 1810 kg
- b) 2800 kg
- c) 1940 kg
- d) 2670 kg

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20. Which component of the B737-400 Flight Management System (FMS) is used to enter flight plan routing and performance parameters?

- a) N5225 W00805
- b) N5220 W00750
- c) N5230 W00800
- d) N5240 W00750

21. Given: Distance from departure to destination: 2000 NM Endurance: 5 h TAS: 500 kt Ground Speed Out: 480 kt Ground Speed Home: 520 kt What is the distance of the PSR from the departure point?

- a) 1248 NM
- b) 752 NM
- c) 624 NM
- d) 1040 NM

22. Refer to Student Pilot Route Manual E(LO)1 What is the radial and DME distance from CRK VOR/DME (N5150.4 W00829.7) to position N5220 W00810?

- a) 030° - 33 NM
- b) 220° - 40 NM
- c) 014° - 33 NM
- d) 048° - 40 NM

23. In order to perform a steady level turn at constant speed in an aeroplane, the pilot must:

- a) Increase thrust/power and keep angle of attack unchanged.
- b) Increase thrust/power and decrease angle of attack.
- c) Increase thrust/power and angle of attack.
- d) Increase angle of attack and keep thrust/power unchanged.

24. In the Flight Management Computer (FMC) of the Flight Management System (FMS), data relating to waypoints is stored in the:

- a) Navigation database
- b) Auto flight computers
- c) Performance database
- d) Continuous automatic position reporting using Global Positioning System (GPS) satellites and collision avoidance using TCAS II

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25. The trim tab:

- a) Reduces Hinge Moment And Increases Control Surface Efficiency.
- b) Increases Hinge Moment And Reduces Control Surface Efficiency.
- c) Increases Hinge Moment And Control Surface Efficiency.
- d) Reduces hinge moment and control surface efficiency.

26. An impulse coupling does not function at such speeds above those encountered in starting. Its engaging pawls are prevented from operating at higher speeds by

- a) Engine Oil Pressure
- b) A coil spring
- c) Centrifugal force
- d) Electro-magnetic Action Of Operating Magneto.

27. In accordance with OPS 1, the noise abatement procedures specified by the operator should be:

- a) For all aeroplane types, the same for a specific aerodrome.
- b) For an aeroplane type, the same for all aerodromes.
- c) Different according to aerodromes and aeroplane types.
- d) For all aeroplane types, the same for all aerodromes.

28. The 'maximum tyre speed' limits:

- a) V1 in KT TAS
- b) VR, or VMU if this is lower than VR
- c) VLOF in terms of ground speed
- d) V1 in KT ground speed

29. In the ATC flight plan Item 10 (equipment), the letter to indicate the carriage of a serviceable transponder - mode A (4 digits-4096 codes) and mode C, is:

- a) B
- b) A
- c) C
- d) P

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30. In accordance with JAR-OPS, 10 % of the passengers in a non-pressurised aircraft shall be supplied with supplemental oxygen for the entire flight time after 30 minutes at pressure altitudes greater than:

- a) 14000 ft but not exceeding 15000 ft.
- b) 10000 ft but not exceeding 13000 ft.
- c) 10000 ft but not exceeding 14000 ft.
- d) 10000 ft but not exceeding 15000 ft.

31. Which statement is correct concerning the effect of the application of carburettor heat?

- a) The Volume Of Air Entering The Carburettor Is Reduced, Thus Leaning The Fuel/air Mixture.
- b) The density of the air entering the carburettor is reduced, thus enriching the fuel/air mixture.
- c) The volume of air entering the carburettor is reduced, thus enriching the fuel/air mixture.
- d) The Density Of The Air Entering The Carburettor Is Reduced, Thus Leaning The Fuel/air Mixture.

32. The current in a DC circuit, according to Ohm's law, can be described as:

- a) Directly Proportional To Both The Voltage And The Resistance.
- b) Inversely proportional to the resistance and directly proportional to the voltage.
- c) Inversely proportional to both the voltage and the resistance.
- d) Equal To The Voltage And Directly Proportional To The Resistance.

33. Under which of the following circumstances shall an aircraft squawk 7700 ?

- a) When flying within controlled airspace
- b) When following a SID
- c) When passing the transition level
- d) In distress

34. Assuming the initiating cause is removed, which of these statements about resetting are correct or incorrect? 1) A fuse is not resettable 2) A circuit breaker is not resettable.

- a) 1) Is Correct, 2) Is Correct.
- b) 1) is correct, 2) is incorrect.
- c) 1) is incorrect, 2) is incorrect.
- d) 1) Is Incorrect, 2) Is Correct.

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35. Generally, the time required for dark adaptation is:

- a) 1/10 sec
- b) 10 sec
- c) 10 min
- d) 30 min

36. What airborne equipment, if any, is required to be fitted in order that a VDF let-down may be flown?

- a) VOR
- b) VHF radio
- c) VOR/DME
- d) None

37. The frequency of an SSR ground transmission is:

- a) 1050 +/- 0.5 MHz
- b) 1030 +/- 0.2 MHz
- c) 1120 +/- 0.6 MHz
- d) 1090 +/- 0.3 MHz

38. On a Direct Mercator chart a great circle will be represented by a:

- a) Complex curve
- b) Curve concave to the equator
- c) Straight line
- d) Curve convex to the equator

39. An electrically activated and operated fuel valve is called a/an:

- a) Pcu Valve.
- b) Electronic valve.
- c) Solenoid valve.
- d) Check Valve.

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40. The QNH at an airfield in California located 69 metres below sea level is 1018 hPa. The air temperature is 10°C higher than a standard atmosphere. What is the QFF?

- a) Less than 1018 hPa
- b) 1018 hPa
- c) More than 1018 hPa
- d) It is not possible to give a definitive answer

41. A jet transport has the following structural limits:-Maximum Ramp Mass: 63 060 kg-Maximum Take Off Mass: 62 800 kg-Maximum Landing Mass: 54 900 kg-Maximum Zero Fuel Mass: 51 300 kgThe aeroplane's fuel is loaded accordance with the following requirements:-Taxi fuel: 400 kg-Trip fuel: 8400 kg-Contingency & final reserve fuel: 1800 kg-Alternate fuel: 1100 kgIf the Dry Operating Mass is 34930 kg, determine the maximum traffic load that can be carried on the flight if departure and landing airfields are not performance limited.

- a) 16 430 kg
- b) 17 070 kg
- c) 16 370 kg
- d) 16 570 kg

42. 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

43. For a planned flight the calculated fuel is as follows: Flight time: 2h42minThe reserve fuel, at any time, should not be less than 30% of the remaining trip fuel. Taxi fuel: 9 kgBlock fuel: 136 kgHow much fuel should remain after 2 hours flight time?

- a) 33 kg trip fuel and 10 kg reserve fuel.
- b) 25 kg trip fuel and 8 kg reserve fuel.
- c) 33 kg trip fuel and no reserve fuel.
- d) 23 kg trip fuel and 10 kg reserve fuel.

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44. How can the process of learning be enhanced?

- a) By increasing the psychological pressure on the student
- b) By reinforcing successful performance
- c) By reinforcing errors
- d) By punishing the learner for unsuccessful trials

45. Although the anticipation of possible events is a good attitude for pilots to acquire, it can sometimes lead to hazardous situations. With this statement in mind, select the response below which could lead to such a hazard:

- a) Anticipating that the flight will take longer time than planned
- b) Anticipating that the weather may deteriorate
- c) Anticipating the sequence of items on a check list.
- d) Mishearing the contents of a reply from an air traffic controller when a non-standard procedure was given but a standard procedure was anticipated

46. For a non pressurised aircraft, 100% of passengers shall be supplied with supplemental oxygen during:

- a) The entire flight time after 30 minutes at pressure altitudes greater than 10 000 ft but not exceeding 13 000 ft
- b) The entire flight time at pressure altitudes above 10 000 ft
- c) The entire flight time at pressure altitudes above 13 000 ft and for any period exceeding 30 minutes at pressure altitudes above 10 000 ft but not exceeding 13 000 ft
- d) The entire flight time at pressure altitudes above 13 000 ft

47. Altitude-hypoxia, when breathing ambient air, should not usually occur (indifferent phase)

- a) Between 3 000 m and 5 000 m
- b) Up to 5 000 m
- c) Between 5 000 m and 7 000 m
- d) Below 3 000 m

48. Resonance of the body parts can result from:

- a) Vibrations from 16 Hz to 18 kHz
- b) Acceleration along the longitudinal body axis
- c) Vibrations from 1 to 100 Hz
- d) Angular velocity

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49. When flying in straight and level flight at FL 290 for some considerable time a small leak develops in the cabin which causes a slow depressurisation, this can be seen on the cabin rate of climb indicator which will indicate:

- a) A rate of climb
- b) A rate of descent dependent upon the cabin differential pressure
- c) Zero
- d) A rate of descent of approximately 300 fpm

50. 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

51. The landing field length required for turbojet aeroplanes at the destination (wet condition) is the demonstrated landing distance plus:

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

52. What causes surface winds to flow across the isobars at an angle rather than parallel to the isobars?

- a) The greater density of the air at the surface.
- b) Coriolis force.
- c) The greater atmospheric pressure at the surface.
- d) Surface friction.

53. For the purpose of completing the Mass and Balance documentation, the Traffic Load is considered to be equal to the Take-off Mass

- a) Plus the Operating Mass.
- b) Plus the Trip Fuel Mass.
- c) Less the Operating Mass.
- d) Less the Trip Fuel Mass.

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54. 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

55. A "close traffic advisory" is displayed on the display device of the TCAS II (Traffic Collision Avoidance System) by:

- a) A blue or white empty lozenge.
- b) A yellow full circle.
- c) A red full square.
- d) A blue or white full lozenge.

56. The take-off distance available is:

- a) The runway length plus half of the clearway
- b) The runway length minus stopway
- c) The total runway length, without clearway even if this one exists
- d) The length of the take-off run available plus the length of the clearway available

57. Refer to the Student Pilot Route Manual - PARIS CDG Plate 20-3: Planning an IFR-flight from Paris (Charles de Gaulle) RWY 27 to London. Given: Distance from PARIS Charles-de-Gaulle to top of climb 50 NM Determine the distance from the top of climb (TOC) to ABB 116.6.

- a) 24.5 NM
- b) 31 NM
- c) 36.5 NM
- d) 33 NM

58. Given: Aircraft heading 160°(M), Aircraft is on radial 240° from a VOR, Selected course on HSI is 250°. The HSI indications are deviation bar:

- a) Behind the aeroplane symbol with the FROM flag showing
- b) Ahead of the aeroplane symbol with the TO flag showing
- c) Ahead of the aeroplane symbol with the FROM flag showing
- d) 360°

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59. An aircraft takes off from the aerodrome of BRIOUDE (altitude 1483', QFE = 963 hPa, temperature = 32°C). Five minutes later, passing 5000' on QFE, the second altimeter set on 1013 hPa will indicate approximately:

- a) 6500'
- b) 4000'
- c) 6300'
- d) 6800'

60. According to PART-MED, licence holders do not exercise the privileges of their licences, related ratings or authorisations at any time when they are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges. They shall without undue delay seek the advice of the authority or AME when becoming aware of hospital or clinic admissions for:

- a) More than 12 hours
- b) Any period
- c) More than one week
- d) More than 12 days

61. Refer to CAP697 Section 4 - MRJT1 Page 19 Figure 4.5.1 En-route Climb 280/0.74 Given: brake release mass 57500 kg temperature ISA -10°C head wind component 16 KT initial FL 280 Find: still air distance (NAM) and ground distance (NGM) for the climb

- a) 59 NAM 62 NGM
- b) 62 NAM 59 NGM
- c) 71 NAM 67 NGM
- d) 67 NAM 71 NGM [see Annex]

62. When the term 'CAVOK' is used in an aviation routine weather report (METAR), the values of visibility and clouds are:

- a) Visibility 10 km or more, no clouds below 5000 feet/GND
- b) Visibility more than 5000 m, no clouds below 1500 m/GND
- c) Visibility more than 8 km, no clouds below 3000 feet/GND
- d) Visibility 10 km or more, no clouds below 1500 feet/GND

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63. An aneroid capsule:1 - measures differential pressure 2 - measures absolute pressure3 - is used for low pressure measurement4 - is used for very high pressure measurementThe combination regrouping all the correct statements is:

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

64. Distance Measuring Equipment (DME) operates in the:

- a) VHF band and uses the principle of phase comparison
- b) UHF band and uses one frequency
- c) UHF band and uses two frequencies
- d) SHF band and uses frequency modulation techniques

65. In accordance with annex 1, when a contracting state renders valid a licence issued by another contracting state, the validity of the authorisation:

- a) Depends on the regulations of the contracting state which renders valid the licence.
- b) Shall not extend beyond one year for ATPL and CPL.
- c) Shall not extend beyond the period of validity of the licence.
- d) Is only considered for PPL.

66. Which statement about reduced thrust is correct?

- a) Reduced thrust is primarily a noise abatement procedure
- b) Reduced thrust can be used when the actual take-off mass is less than the field length limited take-off mass
- c) In case of reduced thrust V1 should be decreased
- d) Reduced thrust is used in order to save fuel

67. The purpose of an accumulator in a hydraulic system is:

- a) To Bypass The Pumps In The Hydraulic System.
- b) To eliminate the fluid flow variations.
- c) To enable the starting of hydraulic devices.
- d) To damp the fluid pressure variations.

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68. A gravity type erector is used in a vertical gyro device to correct errors on:

- a) A directional gyro unit
- b) An artificial horizon
- c) A gyromagnetic indicator
- d) A turn indicator

69. The fuel burn of an aircraft turbine engine is 220 l/h with a fuel density of 0,80. If the density is 0,75, the fuel burn will be:

- a) 235 l/h
- b) 176 l/h
- c) 220 l/h
- d) 206 l/h

70. Flight information service provided to flights shall include the provision of information concerning collision hazards to aircraft operating in airspace classes:

- a) A to E (inclusive)
- b) A to G (inclusive)
- c) F and G
- d) C to G (inclusive)

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Schema Risposte

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

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