

Simulazione di Esame

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



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NOME ALLIEVO:

DATA & ORA:

01. The empty mass of an aircraft is recorded in

- a) The loading manifest. It differs from Dry Operating Mass by the value of the 'useful load'.
- b) The weighing schedule. If changes occur, due to modifications, the aircraft must be re-weighed always.
- c) The loading manifest. It differs from the zero fuel mass by the value of the 'traffic load'.
- d) The weighing schedule and is amended to take account of changes due to modifications of the aircraft.

02. In a steep turn to the left, when using spoilers ...

- a) The Right Aileron Will Descend, The Left One Will Ascend, The Right Spoiler Will Extend And The Left One Will Retract.
- b) The right aileron will descend, the left one will ascend, the right spoiler will retract and the left one will extend.
- c) The Right Aileron Will Ascend, The Left One Will Descend, The Right Spoiler Will Retract And The Left One Will Extend.
- d) The Right Aileron Will Ascend, The Left One Will Descend, The Right Spoiler Will Extend And The Left One Will Retract.

03. What is the correct call sign of Fastair 345 in the initial call to the aerodrome control tower and the approach control unit, if the aircraft has a maximum take-off weight of more than 136 tonnes:

- a) Fastair 345 heavy
- b) Fastair 345 widebody
- c) Fastair 345
- d) Heavy Fastair 345

04. A high aspect ratio wing produces:

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

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05. 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:

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

06. On an aeroplane, spoilers are:

- a) Upper Wing Surface Devices, Their Deflection Is Always Asymmetrical.
- b) Lower Wing Surface Devices, Their Deflection Is Symmetrical Or Asymmetrical.
- c) Lower Wing Surface Devices, Their Deflection Is Always Asymmetrical.
- d) Upper wing surface devices, their deflection is symmetrical or asymmetrical.

07. A stereotype and involuntary reaction of the organism on stimulation of receptors is called:

- a) Reflex
- b) Change of stimulation level
- c) Control system
- d) Data processing

08. If the centre of gravity is near the forward limit the aeroplane will:

- a) Benefit from reduced drag due to the decrease in angle of attack.
- b) Require less power for a given airspeed.
- c) Require elevator trim which will result in an increase in fuel consumption.
- d) Tend to over rotate during take-off.

09. Which of the following is the correct suffix for the ATC unit controlling the traffic on the ground at an airport?

- a) Radar
- b) Approach
- c) Ground
- d) Delivery

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10. The expression "primary flight control" applies to the: 1) stabilizer 2) rudder 3) speed brake 4) aileron. The combination that regroups all of the correct statements is:

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

11. What is the influence of the mass on maximum rate of climb (ROC) speed if all other parameters remain constant?

- a) The ROC is affected by the mass, but not the ROC speed
- b) The ROC speed decreases with increasing mass
- c) The ROC and the ROC speed are independent of the mass
- d) The ROC speed increases with increasing mass

12. The holder of a pilot's licence should inform the Authority of any illness which they are suffering which involves incapacity to undertake those functions to which the licence relates throughout a period of a certain number of days or more. The number of days is:

- a) 21
- b) 90
- c) 60
- d) 30

13. All aeroplanes which individual certificates of airworthiness were issued after 1 January 1989 must be fitted with a flight data recorder when their maximum certificated take-off mass is greater than:

- a) 20 000 kg
- b) 14 000 kg
- c) 27 000 kg
- d) 5 700 kg

14. 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

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15. A minimum time track is a:

- a) Great circle track
- b) Track determined according to wind conditions
- c) Spherical capable flight segment
- d) Rhumb line

16. In a free turbine engine:

- a) Its Power Output Shaft May Be Connected To Either A Compressor Or Another Turbine.
- b) The air enters the compressor via the turbine inlet.
- c) There is no mechanical connection between the compressor and the power output shaft.
- d) The Compressor And Power Output Shaft Are Mechanically Connected.

17. 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

18. Workload essentially depends on:

- a) The current situation, the pilot's expertise and the ergonomics of the system
- b) The task and the day's parameters (weather report, aircraft load, type of flight, etc)
- c) The pilot's knowledge
- d) The pilot's experience and the ergonomics of the system

19. The blood in the pulmonary artery is:

- a) Lacking in both oxygen and carbon dioxide
- b) Rich in oxygen and lacking in carbon dioxide
- c) Lacking in oxygen and rich in carbon dioxide
- d) Rich in both oxygen and carbon dioxide

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20. Which combination of design features is known to be responsible for deep stall?

- a) Swept back wings and wing mounted engines
- b) Straight wings and a T-tail
- c) Straight wings and aft fuselage mounted engines
- d) Swept back wings and a T-tail

21. 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

22. The term 'bootstrap', when used to identify a cabin air conditioning and pressurisation system, refers to the:

- a) Means By Which Pressurisation Is Controlled.
- b) Source of the charge air.
- c) Charge air across the inter-cooler heat exchanger.
- d) Cold air unit (air cycle machine) arrangement.

23. The continuity equation states: If the area of a tube is increasing, the speed of the subsonic and incompressible flow inside is

- a) Decreasing
- b) Sonic
- c) Increasing
- d) Not changing

24. At reference or use Performance Manual MEP 1 Figure 3.2 Given: OAT: -10°C Pressure Altitude: 4000' RWY: 30L Wind: 180°/10 KTTake off Mass: 4600 lbs Heavy Duty Brakes installed Other conditions as associated in the header of the graph. What is the Accelerate and Stop Distance under the conditions given?

- a) 4250 ft
- b) 3550 ft
- c) 3800 ft
- d) 4600 ft

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25. Which of these statements regarding most gust lock systems is correct?

- a) When the gust lock is on there is protection to prevent take-off.
- b) A Gust Lock Is Only Fitted On The Elevator And The Rudder.
- c) On Reversible Flight Controls, There Is No Need For A Gust Lock.
- d) A Gust Lock Can Be Used In Flight To Reduce The Effect Of Turbulence.

26. At approximately what flight level is the subtropical jet stream found?

- a) FL 200
- b) FL 400
- c) FL 500
- d) FL 300

27. A public transport aeroplane with reciprocating engines, the final reserve should be:

- a) Fuel to fly for 2 hours
- b) Fuel to fly for 1 hour at holding speed
- c) Fuel to fly for 45 minutes
- d) Fuel to fly for 30 minutes at holding speed

28. For a planned flight the calculated fuel is as follows: Flight time: 3h06min The reserve fuel, at any time, should not be less than 30% of the remaining trip fuel. Taxi fuel: 8 kg Block fuel: 118 kg How much fuel should remain after 2 hours flight time?

- a) 39 kg trip fuel and 12 kg reserve fuel.
- b) 30 kg trip fuel and 9 kg reserve fuel.
- c) 39 kg trip fuel and no reserve fuel.
- d) 27 kg trip fuel and 12 kg reserve fuel.

29. For the same pressure gradient at 60°N, 50°N and 40°N the speed of the geostrophic wind will be

- a) The same at all latitudes
- b) Greatest at 40°N
- c) Least at 50°N
- d) Greatest at 60°N

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30. What is the correct suffix to be used when establishing radio contact in an area control centre?

- a) Control
- b) Centre
- c) Control centre
- d) Radio

31. In case of a SSR transponder failure occurring after departure of an IFR flight, the pilot shall:

- a) Inform the current ATC unit immediately
- b) Continue the flight in VMC
- c) Squawk 7600
- d) Land at the nearest suitable aerodrome for repair

32. Which of the following sets of factors will increase the climb-limited TOM (every factor considered independently)?

- a) Low flap setting, low pressure altitude, low OAT
- b) Low flap setting, high pressure altitude, low OAT
- c) Low flap setting, high pressure altitude, high OAT
- d) High flap setting, low pressure altitude, low OAT

33. Given: FL250, OAT -15 °C, TAS 250 kt. Calculate the Mach No.?

- a) 0.44
- b) 0.42
- c) 0.39
- d) 0.40

34. In accordance with ICAO and PANS RAC procedures, which letter should be entered into a flight plan to denote an aeroplane which has a weight of less than 136000 kg but greater than 7000 kg:

- a) L
- b) H
- c) S
- d) M

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35. What is the most important aspect of the 'backside of the power curve'?

- a) The altitude cannot be maintained.
- b) The aeroplane will not stall.
- c) The elevator must be pulled to lower the nose.
- d) The speed is unstable.

36. The aeroplane has a mass of 61 000 kg in the cruise. The range of safe CG positions, as determined from the appropriate graph in the loading manual, is:

- a) Forward limit 8.0% aft limit 27.2% MA
- b) Forward limit 8.3% aft limit 26.3% MAC
- c) Forward limit 8.3% aft limit 26.3% MAC forward limit 7.7% aft limit 25.2% MAC
- d) Forward limit 7.6% aft limit 26.9% MA[see Annex]

37. During landing of a low-winged jet aeroplane, the greatest elevator up deflection is normally required when the flaps are:

- a) Fully down and the cg is fully aft.
- b) Up and the cg is fully forward.
- c) Up and the cg is fully aft.
- d) Fully down and the cg is fully forward.

38. When are ATIS broadcasts updated?

- a) Every 30 minutes if weather conditions are below those for VFR
- b) Otherwise hourly
- c) Only when weather conditions change enough to require a change in the active runway or instrument approach in use
- d) Upon receipt of any official weather, regardless of content change or reported values

39. The operator shall include in the operations manual a Minimum Equipment List which shall be approved by the Authority of:

- a) The country of the operator.
- b) It is not mandatory that such a book be approved by aviation authorities.
- c) The country where the aircraft was manufactured.
- d) The country where the aircraft is operated.

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40. The Maximum Certificated Taxi (or Ramp) Mass is that mass to which an aeroplane may be loaded prior to engine start. It is:

- a) A value which varies with airfield temperature and altitude. Corrections are listed in the Flight Manual.
- b) A value which varies only with airfield altitude. Standard corrections are listed in the Flight Manual.
- c) A fixed value which is listed in the Flight Manual.
- d) A value which is only affected by the outside air temperature. Corrections are calculated from data given in the Flight Manual.

41. Equalization of pressure is limited between the middle ear and the ambient, when:

- a) The nose is pinched
- b) The eustachian tube is blocked
- c) Barotrauma exists in the sinuses
- d) You breath through the mouth

42. The capacitance type fuel gauging system indicates the fuel quantity by measuring the:

- a) Resistivity Variation Of The Fuel.
- b) Density variation of the fuel.
- c) Dielectric change between fuel and air.
- d) Electrical Resistance Change.

43. In the lower levels of the atmosphere when the environmental lapse rate is greater than saturated adiabatic lapse rate but less than dry adiabatic lapse rate - the air mass is described as being:

- a) Stable
- b) Conditionally unstable
- c) Absolutely unstable
- d) Unstable

44. Given: Required course 045°(M)

- a) Anti-clockwise giving an apparent turn towards the south
- b) Clockwise giving an apparent turn toward the south
- c) Anti-clockwise giving an apparent turn towards the north
- d) Clockwise giving an apparent turn towards the north

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45. The frequency 121.500 MHz is designated as:

- a) A frequency for air-to-air communication
- b) An international emergency frequency
- c) An airline operation frequency
- d) A regional UHF frequency

46. You plan to fly from point A (60N 010E) to point B (60N 020E). The gyro North of the gyro compass, assumed to be operating perfectly, with no rate correction device, is aligned with the true North of point

- a) The constant gyro heading to be followed when starting from A given that the flight time scheduled is 1 h 30 min with a zero wind, is equal to: 080
- b) 066
- c) 076
- d) 085

47. A 'current flight plan' is a:

- a) Filed flight plan.
- b) Flight plan with the correct time of departure.
- c) Filed flight plan with amendments and clearance included.
- d) Flight plan in the course of which radio communication should be practised between aeroplane and AT

48. Which of the following data, in addition to the Pseudo Random Noise (PRN) code, forms part of the so called 'Navigation Message' transmitted by NAVSTAR/GPS satellites?

- a) Time
- b) Data to impair the accuracy of the position fix
- c) Almanac data
- d) 6

49. 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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50. You are on a compass heading of 090° on the 255 radial from a VOR. You set the course 190° on your OBS. The deviation bar will show:

- a) Full scale deflection right with a 'from' indication
- b) Full scale deflection left with a 'to' indication
- c) Full scale deflection left with a 'from' indication
- d) Coastal refraction.

51. Given: Maximum allowable take-off mass 64 400 kg maximum landing mass 56200 kg maximum zero fuel mass 53 000 kg dry operating mass 35 500 kg estimated load 14 500 kg estimated trip fuel 4 900 kg minimum take-off fuel 7 400 kg. Find: maximum additional load

- a) 3 000 kg
- b) 5 600 kg
- c) 7 000 kg
- d) 4 000 kg

52. The national civil aviation security programme shall be established by:

- a) ECAC
- b) ICAO
- c) ICAO and other organisations including the contracting state concerned
- d) Each contracting state

53. Waypoint 1 is 60°N 30°W. Waypoint 2 is 60°N 20°W. The aircraft autopilot is coupled to the INS steer. What is the latitude on passing 25°W?

- a) 60°11'N
- b) 60°05'S
- c) 60°05'N
- d) 59°49'S

54. Considering TAS for maximum range and maximum endurance, other factors remaining constant:

- a) Both will stay constant regardless of altitude
- b) Both will decrease with increasing altitude
- c) TAS for maximum range will increase with increased altitude while TAS for maximum endurance will decrease with increased altitude
- d) Both will increase with increasing altitude

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55. Of the following alternatives, which effects are due to positive acceleration (+ Gz)?- 1: Decrease in heart rate- 2: Pooling of blood into lower parts of the body- 3: Drop in blood pressure above heart-level- 4: Downward displacement or deformation of soft or mobile organs

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

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

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

57. During radar vectoring, the controller asks the pilot of XY-ABC to turn on to heading 360°. The correct read back of this instruction is:

- a) Heading north, X-BC
- b) Heading three hundred sixty, X-BC
- c) Heading three six zero, X-BC
- d) A read back is not necessary as XY-ABC has been identified

58. Considering a stabilised platform inertial system: 1) The rate gyros and the accelerometers are mounted on the same platform. 2) The rate gyros and the accelerometers are mounted on two separated platforms. 3) The principle of operation requires at least 2 rate gyros. 4) The principle of operation requires at least 2 accelerometers. The combination that regroups all of the correct statements is:

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

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59. The time taken for the transmission of an interrogation pulse by a Distance Measuring Equipment (DME) to travel to the ground transponder and return to the airborne receiver was 2000 micro-second, including time delay. The slant range from the ground transponder was:

- a) 186 NM
- b) 296 NM
- c) 158 NM
- d) The pulse recurrence rates are varied

60. A MLS without DME-P provides:

- a) An ILS-like approach
- b) A staged approach but not with a curved path
- c) A category 3 approach
- d) An approach with a curved path but not staged

61. Given an aeroplane with irreversible primary flight controls, how is control maintained if one hydraulic system is lost due to a hydraulic leak?

- a) The remaining systems will take over control.
- b) By Switching The Flight Control System To The Reversible Mode.
- c) Sufficient Reserve Hydraulic Fluid Is Available To Compensate The Effects Of The Leak.
- d) By Switching To Manual Back-up Mode.

62. How shall a pilot inform the control tower that they have to abandon the take-off manoeuvre:

- a) Stopping
- b) Cancelling take-off
- c) Aborting take-off
- d) Abandoning take-off

63. The operating principle of the vertical speed indicator (VSI) is based on the measurement of the rate of change of:

- a) Dynamic pressure
- b) Static pressure
- c) Kinetic pressure
- d) Total pressure

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64. What is the maximum distance at which you may expect strong VHF reception over flat terrain at FL 140 ?

- a) About 240 NM
- b) About 300 NM
- c) About 40 NM
- d) About 140 NM

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. The rate of climb:

- a) Is angle of climb times true airspeed
- b) Is the downhill component of the true airspeed
- c) Is the horizontal component of the true airspeed
- d) Is approximately climb gradient times true airspeed divided by 100

67. The fuel plan gives a trip fuel of 65 US gallons. The alternate fuel, final reserve included, is 17 US gallons. Contingency fuel is 5% of the trip fuel. The usable fuel at departure is 93 US gallons. At a certain moment the fuel consumed according to the fuel gauges is 40 US gallons and the distance flown is half of the total distance. Assume that fuel consumption doesn't change. Which statement is right ?

- a) The remaining fuel is not sufficient to reach the destination with reserves intact
- b) At destination the required reserves remain intact.
- c) At departure the reserve fuel was 28 US gallons
- d) At the destination there will still be 30 US gallons in the tanks

68. . The mass of an item multiplied by it's distance from the datum is it's

- a) Moment
- b) Force
- c) Moment arm
- d) Centre of gravity

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69. Which sensations does a pilot get, when he is rolling out of a prolonged level turn?

- a) Flying straight and level
- b) Turning in the opposite direction
- c) Turning into the original direction
- d) Climbing

70. The one engine out take-off run is the distance between the brake release point and:

- a) The lift-off point
- b) The point where V2 is reached
- c) The middle of the segment between VLOF point and 35 ft point
- d) The point half way between V1 and V2

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Schema Risposte

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

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