

# Simulazione di Esame

Human Performance and Limitations - ATPL - Airline Transport Pilot license, 70 domande in 70 minuti!



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NOME ALLIEVO:

DATA & ORA:

**01. In order to ascertain whether a cloud return on an Aircraft Weather Radar (AWR) is at or above the height of the aircraft, the tilt control should be set to:(Assume a beam width of 5°)**

- a) 2.5° down
- b) 0°
- c) 5° up
- d)  $\pm 8.0\text{nm}$  for 95% of the flight time.

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

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

**03. What is the minimum number of satellites required for the NAVSTAR/GPS to carry out two dimensional operation?**

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

**04. Holding procedures (entry) You have received instructions to hold over a radio fix. The published procedure is: All turns to the right, 1 minute outbound, inbound Magnetic Track 052°. You are approaching the fix on Magnetic Track 232°. Select the appropriate entry procedure:**

- a) Parallel or direct.
- b) Offset only.
- c) Direct only.
- d) Either offset or parallel.

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

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

**06. Above which flight level do the regulations require a quick donning type of oxygen mask for the flight crew in a pressurized aircraft ?**

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- a) FL 300.
- b) FL 390.
- c) FL 250.
- d) FL 100.

**07. Which word or phrase shall be used if you want to say: 'Wait and I will call you'?**

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- a) Roger.
- b) Go ahead.
- c) Wilco.
- d) Standby.

**08. 'Fail safe construction' is:**

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- a) A Simple And Cheap Type Of Construction
- b) A type of construction in which the load is carried by other components if a part of the structure fails
- c) A construction which is suitable for aerobatic flight
- d) A Type Of Construction For Small Aircraft Only

**09. The principle of a laser gyro is based on:**

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- a) A gyroscope associated with a laser compensating for gimballing errors.
- b) A gyroscope associated with a laser compensating for apparent wander due to the rotation of the earth.
- c) Two rotating cavities provided with mirrors.
- d) Frequency difference between two laser beams rotating in opposite direction.

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**10. Which phrase shall be used if you want to say: 'An error has been made in this transmission (or message indicated). The correct version is ...':**

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- a) QNH 1017, negative QNH 1016
- b) QNH 1017, negative 1016
- c) QNH 1017, correction QNH 1016
- d) QNH 1017, negative I say again 1016

**11. A radio communications, 'Distress' differs from 'Urgency' because in the first case:**

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- a) The aeroplane has suffered damages which impair its fitness to fly.
- b) The aeroplane will not be able to reach a suitable aerodrome.
- c) There is a serious and imminent danger requiring immediate assistance.
- d) The aeroplane or a passenger's safety require the flight immediately interrupted.

**12. What is the Q-code for 'magnetic bearing from the station'?**

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- a) QTE
- b) QDM
- c) QDR
- d) QFE

**13. 3D RNAV fixing gives you:**

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- a) Horizontal and vertical profile guidance
- b) 2D RNAV plus speed control
- c) 2D RNAV plus time guidance
- d) Horizontal, vertical profile and time guidance

**14. Which of these markers has the highest audible frequency?**

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- a) Inner
- b) Airways
- c) Middle
- d) Outer

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**15. Induced drag at constant IAS is affected by:**

---

- a) Aeroplane wing location
- b) Aeroplane weight
- c) Engine thrust
- d) Angle between wing chord and fuselage centre line

**16. In the JAR OPS, a runway is considered wet when:**1. it is covered with a quantity of water or loose or slushy snow less than or equal to the equivalent of 3 mm of water.2. the amount of surface moisture is sufficient to modify its colour but does not give it a shiny appearance.3. the amount of surface moisture is sufficient to make it reflective, but does not create large stagnant sheets of water.4. it bears stagnant sheets of water.The combination regrouping all the correct statements is:

---

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

**17. At reference or use of Performance Manual MEP 1 Figure 3.2 Given:**OAT: 25°CPressure Altitude: 3000 ft RWY: 24LWind: 310°/20ktsTake off Mass: 4400 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?

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- a) 3750 ft
- b) 3350 ft
- c) 4000 ft
- d) 4300 ft

**18. Refer to the Student Pilot Route Manual - VFR Chart ED-4**Flying from ERBACH airport (48°21'N, 009°55'E) to POLTRINGEN airport (48°33'N, 008°57'E). Find magnetic course and the distance.

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- a) Magnetic course 285°, distance 41 NM
- b) Magnetic course 289°, distance 76 KM
- c) Magnetic course 287°, distance 60 NM
- d) Magnetic course 108°, distance 41 NM

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**19. Given: True HDG = 074°, TAS = 230 kt, Track (T) = 066°, GS = 242 kt. Calculate the W/V?**

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- a) 185/35kt
- b) 180/30kt
- c) 180/40kt
- d) 180/35kt

**20. An aircraft manoeuvring in an airport's circuit receives a series of red flashes from the control tower. This signifies that the aircraft must:**

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- a) Return to land and that clearance to land will be communicated in due course.
- b) Give way to another aircraft.
- c) Not land for the moment regardless of previous instructions.
- d) Not land because the airport is not available for landing.

**21. The frequency 121.500 MHz is designated as:**

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

**22. Refer to CAP697 MRJT1 Figure 4.7.2 (One Engine Inop): An aircraft on an extended range operation is required never to be more than 120 minutes from an alternate, based on 1 engine inoperative LRC conditions in IS**

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- a) Using the above table and a given mass of 40000 kg at the most critical point, the maximum air distance to the relevant alternate is: 810 NM
- b) 794 NM
- c) 875 NM
- d) 735 NM[see Annex]

**23. Fuel loaded onto an aeroplane is 15400 kg but is erroneously entered into the load and trim sheet as 14500 kg. This error is not detected by the flight crew but they will notice that**

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- a) V1 will be reached sooner than expected
- b) V1 will be increased.
- c) Speed at un-stick will be higher than expected
- d) The aeroplane will rotate much earlier than expected.

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**24. A VOR and an NDB are co-located. An aircraft equipped with an RMI is flying away from the beacons on a radial of 090° through an area where magnetic variation is changing rapidly. Which statement is correct?**

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- a) Neither the VOR or the NDB needles move
- b) The ADF needle moves, the VOR needle does not
- c) The VOR needle moves, the ADF needle does not
- d) Both VOR and ADF needles move

**25. The loading limitations shall include:**

---

- a) All limiting mass and centres of gravity
- b) All limiting mass, centres of gravity position, mass distributions and floor loading
- c) All limiting mass, centres of gravity position and floor loading
- d) All limiting mass, mass distributions and centres of gravity

**26. Which of the following factors determines the maximum flight altitude in the 'Buffet Onset Boundary' graph?**

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- a) Service ceiling
- b) Theoretical ceiling
- c) Economy
- d) Aerodynamics

**27. The actual 'Zero Fuel Mass' is equal to the:**

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- a) Operating Mass plus all the traffic load.
- b) Basic Empty Mass plus the fuel loaded.
- c) Dry Operating Mass plus the traffic load.
- d) Actual Landing Mass plus trip fuel.

**28. To which frequency bands do the frequencies 118.000 - 136.975 MHz of the Aeronautical Mobile Service belong?**

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- a) Very high frequency
- b) Medium frequency
- c) Low frequency
- d) Very low frequency

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**29. What is the time required to travel along the parallel of latitude 60° N between meridians 010° E and 030° W at a groundspeed of 480 KT?**

---

- a) 1 h 15 min
- b) 1 h 45 min
- c) 2 h 30 min
- d) 5 h 00 min

**30. The angle between Magnetic North and Compass North is called:**

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- a) Magnetic variation
- b) Compass error
- c) Compass deviation
- d) Alignment error

**31. What does the term 'broadcast' mean?**

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- a) A radiotelephony transmission from ground station to aircraft in flight
- b) A transmission where no reply is required from the receiving station
- c) A transmission of information relating to air navigation that is not addressed to a specific station or stations
- d) A transmission containing meteorological and operational information to aircraft engaged in flights over remote and oceanic areas out of range of VHF ground stations

**32. The tangent from the origin to the power required against true airspeed curve, for a jet aeroplane, determines the speed for:**

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- a) Maximum endurance
- b) Critical angle of attack
- c) Maximum specific range
- d) Minimum power

**33. The convention on offences and certain acts committed on board aircraft, is:**

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- a) The convention of Tokyo
- b) The convention of Chicago
- c) The convention of Rome
- d) The convention of Paris

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## 34. What does the abbreviation 'AIS' mean?

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- a) Aerodrome identification signal-area
- b) Aeronautical information service
- c) Aerodrome information service
- d) Airport information system

## 35. For an aeroplane with one fixed value of VA the following applies. VA is:

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- a) The speed at which unrestricted application of elevator control can be used, without exceeding the maximum manoeuvring limit load factor
- b) The maximum speed in smooth air
- c) Just another symbol for the rough air speed
- d) The speed at which the aeroplane stalls at the manoeuvring limit load factor at MTOW.

## 36. Which of the following equipments uses primary radar principles?

---

- a) Distance Measuring Equipment (DME)
- b) Secondary Surveillance Radar (SSR)
- c) Global Positioning System (GPS)
- d) Airborne weather radar (AWR)

## 37. 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.

## 38. The separation method whereby the vertical and horizontal separation may be reduced till a maximum of half the standard criteria is called:

---

- a) Reduced separation
- b) Combined separation
- c) Essential separation
- d) Composite separation



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**39. What is the aircraft track?**

- a) 272°(M)
- b) 280°(M)
- c) 260°(M)
- d) 300°(M)

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**40. On the readability scale what does READABILITY 1 mean?**

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

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**41. In a twin engine jet aeroplane (engines mounted below the low wings) the thrust is suddenly increased. Which elevator deflection will be required to maintain the pitching moment zero ?**

- a) Up.
- b) Down.
- c) It depends on the position of the centre of gravity.
- d) No elevator movement will be required because the thrust line of the engines remains unchanged.

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**42. The distress signal and the distress message to be sent by an aircraft in distress be on:**

- a) The emergency frequency in any case
- b) The air-ground frequency in use at the time
- c) The FIS frequency designated for the airspace concerned
- d) The regional guard frequency

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**43. Between which latitudes are you most likely to find the subtropical high-pressure belt ?**

- a) 35° - 55°.
- b) 10° - 15°.
- c) 55° - 75°.
- d) 25° - 35°.

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**44. 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).

**45. A correct definition of longitude is:**

---

- a) The east-west distance between greenwich and the place.
- b) The difference between the greenwich meridian and the meridian of the place, measured at the centre of the Earth.
- c) The arc at equator between the greenwich meridian and the meridian of the place, measured in degrees, minutes and seconds named East or West.
- d) The angle between the greenwich meridian and the meridian of the place.

**46. The middle marker transmits on:**

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- a) 75MHz
- b) 1300Hz
- c) 75Hz
- d) 1300MHz

**47. Refer to CAP698 Section 3 - MEP1 Figure 3.1 Normal Procedure Given: OAT 24 °C Pressure Altitude: 3000 ft RWY 30R Wind: 060/04 Kt Take-off Mass: 3800 lbs Other conditions as associated in the header of the graph. What is the Ground Roll Distance under the conditions given?**

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- a) 1670 ft
- b) 2000 ft
- c) 1780 ft
- d) 2150 ft

**48. The wavelength of a radio wave transmitted on frequency 121.95 MHz is:**

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- a) 24.60 Cm
- b) 2.46 cm
- c) 2.46 m
- d) 24.60 M

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**49. 'Tuck under' is caused by (i) which movement of the centre of pressure of the wing and (ii) which change of the downwash angle at the location of the stabilizer.**

---

- a) (i) aft (ii) increasing
- b) (i) forward (ii) decreasing
- c) (i) forward (ii) increasing
- d) (i) aft (ii) decreasing

**50. The sequence of the automatic landing comprises several phases (from final approach to touch-down) actuated by:**

---

- a) The distance left before the touch down zone.
- b) The radio altimeter.
- c) The DME (Distance Measuring Equipment) of the ILS (Instrument Landing System).
- d) The altimeter set to the QNH.

**51. The ICAO Standard Atmosphere (ISA) assumes that temperature will reduce at the rate of:**

---

- a) 1,98°C per 1000 FT up to 36090 FT and will then rise at 0.3°C per 1000 FT up to 65617 FT when it will remain constant
- b) 2°C per 1000 FT up to 65617 FT after which it will remain constant to 104987 FT
- c) 1.98°C per 1000 FT up to 36090 FT after which it remains constant to 65617 FT
- d) 2°C per 1000 FT up to 36090 FT and will then increase at 0.3°C per 1000 FT up to 65617 FT

**52. What will be the effect on the reading of an altimeter of an aircraft parked on the ground as an active cold front is passing?**

---

- a) It will remain unchanged
- b) It will first increase then decrease
- c) It will fluctuate up and down by about +/- 50 feet
- d) It will first decrease then increase

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**53. After having programmed your flight director, you see that the indications of your ADI (Attitude Director indicator) are as represented in diagram N°1 of the appended annex. On this instrument, the command bars indicate that you must:**

---

- a) Decrease the flight attitude and bank your airplane to the left until the command bars recentre on the symbolic aeroplane.
- b) Increase the flight attitude and bank your aeroplane to the right until the command bars recentre on the symbolic aeroplane.
- c) Decrease the flight attitude and bank your airplane to the right until the command bars recentre on the symbolic aeroplane.
- d) Increase the flight attitude and bank your airplane to the left until the command bars recentre on the symbolic aeroplane.

**54. When air has passed through a shock wave the local speed of sound is:**

---

- a) Not affected
- b) Decreased
- c) Increased
- d) Decreased and beyond a certain Mach number start increasing again

**55. 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.

**56. The operating principle of a DME is the measurement of the:**

---

- a) Frequency change between the emitted wave and reflected wave
- b) Frequency of the reflected wave
- c) Time between the transmission and reception of radio pulses
- d) 190 NM

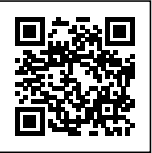
**57. A temperature sensor has a recovery factor of 0,95. The temperature measured is equal to:**

---

- a) Ram air temperature (RAT) + 95 % of the ram rise.
- b) Static air temperature (SAT) + 95% of the ram rise.
- c) 95 % of the ram air temperature (RAT).
- d) 95 % of the static air temperature (SAT).

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**58. A signal sent by radiotelephony consisting of the spoken word MAYDAY MAYDAY MAYDAY means:**

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- a) The aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or vehicle
- b) The aircraft has a message to transmit concerning adverse weather conditions along its route of flight
- c) Imminent danger threatens the aircraft and immediate assistance is required
- d) The aircraft is forced to perform a fuel dumping procedure

**59. Density Altitude:**

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- a) Is equal to the pressure altitude
- b) Is used to establish minimum clearance of 2000' over mountains
- c) Is used to determine the aeroplane performance
- d) Is used to calculate the FL above the Transition Altitude

**60. Which statement about a jet transport aeroplane is correct during take-off with the cg at the forward limit and the trimmable horizontal stabiliser (THS) positioned at the maximum allowable aeroplane nose down position?**

---

- a) If the THS position is just within the limits of the green band, the take off warning system will be activated.
- b) Early nose wheel raising will take place.
- c) The rotation will require extra stick force.
- d) Rotation will be normal.

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

---

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

**62. Minimum planned take-off fuel is 160 kg (30% total reserve fuel is included). Assume the groundspeed on this trip is constant. When the aircraft has done half the distance the remaining fuel is 70 kg. Is diversion to a nearby alternate necessary?**

---

- a) Diversion to a nearby alternate is not necessary, because it is allowed to calculate without reserve fuel.
- b) Diversion to a nearby alternate is not necessary, because the reserve fuel has not been used completely.
- c) Diversion to a nearby alternate is necessary, unless the captain decides to continue on his own responsibility.
- d) Diversion to a nearby alternate is necessary, because the remaining fuel is not sufficient.

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**63. Select the acronym corresponding to the following definition: an special NOTAM series notifying, by means of a specific format, an important change for the aircraft operations, due to a volcano activity, a volcano eruption or a volcanic ash cloud.**

---

- a) VULTAM
- b) ASHTAM
- c) VOLCAM
- d) NAVTAM

**64. Following a take-off determined by the 50' (15 m) screen height, a light twin climbs on a 10% over-the-ground climb gradient. It will clear a 900 m high obstacle in relation to the runway (horizontally), situated at 10000 m from the 50' clearing point with an obstacle clearance of:**

---

- a) 100 m
- b) 115 m
- c) It will not clear the obstacle
- d) 85 m

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

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- 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.

**66. Any acceleration in climb, with a constant power setting:**

---

- a) Improves the rate of climb if the airspeed is below  $V_Y$
- b) Improves the climb gradient if the airspeed is below  $V_X$
- c) Decreases rate of climb and increases angle of climb
- d) Decreases the rate of climb and the angle of climb

**67. When determining the maximum landing mass of an turbojet powered aeroplane during the planning phase what factor must be used on the landing distance available (dry runway)**

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- a) 115/100
- b) 1.67
- c) 0.60
- d) 60/115

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**68. In case of a serious threat based on the presence of a bomb on board a pressurized aircraft and disregarding any fuel considerations:**

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- a) You descend to the flight level corresponding to the indicated cabin altitude or the safety altitude if higher and take preventive steps by putting yourself in a landing approach configuration.
- b) You go down to the level corresponding to the indicated cabin altitude and keep the airplane in a clean configuration until the final approach.
- c) You climb to the maximum flight level which does not need the use of pressurization.
- d) You carry out an emergency descent to reach the safety altitude.

**69. Accident investigation Who is responsible for the initiation of an accident investigation?**

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- a) The Operators of the same aircraft type.
- b) The Authority of the State in which the accident took place.
- c) The State of design and manufacturer.
- d) The aircraft manufacturer.

**70. The deviation of the magnetic compass is due to the action of:**

---

- a) The hard iron pieces influenced by the geomagnetic field
- b) The hard iron pieces and the soft iron pieces influenced by the hard iron pieces
- c) The hard iron pieces influenced by the mild iron pieces
- d) The soft iron pieces influenced by the geomagnetic field

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## Schema Risposte

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

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