

# Simulazione di Esame

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



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NOME ALLIEVO:

DATA & ORA:

**01. What is the effect of an aft shift of the centre of gravity on ( 1) static longitudinal stability and( 2) the required control deflection for a given pitch change?**

- a) (1) reduces (2) reduces
- b) (1) reduces (2) increases
- c) (1) increases (2) increases
- d) (1) increases (2) reduces

**02. A pilot accidentally turning OFF the INS in flight, and then turns it back ON a few moments later. Following this incident:**

- a) 4L - 400 kt
- b) 3L - 415 kt
- c) 6L - 400 kt
- d) 8L - 415 kt

**03. Given: True HDG = 233°, TAS = 480 kt, Track (T) = 240°, GS = 523 kt. Calculate the W/V?**

- a) 4
- b) 5
- c) 7
- d) 6

**04. A DME in tracking mode subsequently experiences a reduction in signal strength will switch the equipment in the first instance to:**

- a) Memory mode
- b) Signal controlled search
- c) Standby mode
- d) Behind the aeroplane symbol with the TO flag showing

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## 05. TCAS 2 (Traffic Collision Avoidance System) uses for its operation:

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- a) The echoes from the ground air traffic control radar system.
- b) The echoes of collision avoidance radar system especially installed on board.
- c) The replies from the transponders of other aircrafts.
- d) Both the replies from the transponders of other aircraft and the ground-based radar echoes.

## 06. An aircraft has a maximum certificated take-off mass of 137000 kg but is operating at take-off mass 135000 kg. In Item 9 of the ATC flight plan its wake turbulence category is:

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- a) Medium 'M'
- b) Heavy/medium 'H/M'
- c) Medium plus 'M+'
- d) Heavy 'H'

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

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- 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.

## 08. Subject to conditions specified by the appropriate ATS authority, a radar controller may request radar-controlled aircraft to adjust their speed when established on intermediate and final approach. This speed adjustment should not be more than:

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- a) +/- 10 kt.
- b) +/- 20 kt.
- c) +/- 8 kt.
- d) +/- 15 kt.

## 09. What is the correct way of transmitting 1001 as a QNH ?

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- a) QNH one double 'O' one
- b) QNH one zero zero one
- c) QNH one double zero one
- d) QNH one thousand and one

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**10. The longitudinal separation minima based on distance using DME, and each aircraft 'on track' uses DME stations, is:**

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- a) 10 NM.
- b) 5 NM.
- c) 20 NM.
- d) 20 NM when the leading aircraft maintains a true airspeed of 20 kt or more faster than the succeeding aircraft.

**11. One method to compensate adverse yaw is:**

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- a) A differential aileron.
- b) A balance panel.
- c) An anti-balance tab.
- d) A balance tab.

**12. From the loading manual for the transport aeroplane, the aft cargo compartment has a maximum total load of:**

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- a) 9232 kg
- b) 1568 kg
- c) 4187 kg
- d) 3062 kg

**13. Which of the following statements is correct?**

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- a) The performance limited take-off mass is independent of the wind component
- b) The accelerate stop distance required is independent of the runway condition
- c) The climb limited take-off mass is independent of the wind component
- d) The take-off distance with one engine out is independent of the wind component

**14. In certain conditions  $V_2$  can be limited by  $V_{mca}$ :**

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- a) Low take-off mass, small flap extension, low field elevation
- b) High take-off mass, large flap extension, low field elevation
- c) Low take-off mass, large flap extension, low field elevation
- d) High take-off mass, small flap extension, high field elevation

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**15. In the ATC flight plan item 15, it is necessary to enter any point at which a change of cruising speed takes place. For this purpose a 'change of speed' is defined as:**

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- a) 20 km per hour or 0.1 Mach or more
- b) 10 % TAS or 0.05 Mach or more
- c) 20 knots or 0.05 Mach or more
- d) 5% TAS or 0.01 Mach or more

**16. Must a 'general call' be acknowledged'?**

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- a) Yes, from all stations in the sequence they have been addressed
- b) Yes, but only from the station first called
- c) Yes, from all stations in a random sequence
- d) No

**17. Refer to the General Student Pilot Route Manual - VFR Chart ED-4 Which navigation aid is located in position 48°23'N, 008°39'E?**

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- a) VOR
- b) VORTAC
- c) VOR/DME
- d) NDB

**18. After a decompression to 43 000 FT the TUC (Time of Useful Consciousness) will be approximately:**

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- a) 30-45 seconds
- b) 5-15 seconds
- c) 60-90 seconds
- d) 45-60 seconds

**19. Excluding RVSM an appropriate flight level for IFR flight in accordance with semi-circular height rules on a magnetic course of 200° is:**

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- a) FL320
- b) FL310
- c) FL300
- d) FL290

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## 20. Precision RNAV (P-RNAV) requires a track-keeping accuracy of:

- a)  $\pm 10.0\text{nm}$  for 95% of the flight time.
- b)  $\pm 5.0\text{nm}$  for 95% of the flight time.
- c)  $\pm 1.0\text{nm}$  for 95% of the flight time.
- d) 1300MHz

## 21. Which weather phenomena are typical for the northern side of the Alps with strong winds from the south (Foehn)?

- a) Continuous precipitation, severe turbulence.
- b) Good visibility, turbulence.
- c) Icing, huge mass of clouds.
- d) Decrease in temperature, moderate to severe icing.

## 22. Some of the FMS have a navigation mode called Dead Reckoning mode (DR), computing airspeed, heading, wind data ground speed and time. This mode is:

- a) A navigation mode used to monitor the FMS position.
- b) An operating mode used to intercept radials To or From a flight plan waypoint.
- c) The normal navigation mode for FMS which do not use Inertial navigation Systems INS to compute the aircraft position.
- d) A back up navigation mode to compute a FMS position when the other navigation sensors are no longer operating.

## 23. In accordance with JAR OPS 1, the operator shall ensure that:

- a) For VFR flights conducted in class B airspace, horizontal distance from clouds is at least 1000m.
- b) For VFR flights conducted in class F airspace, vertical distance from clouds is at least 250m.
- c) Special VFR flights are not commenced when visibility is less than 3 km.
- d) For VFR flights conducted in class E airspace, flight visibility at and above 3050m (10000ft) is at least 5 km (clear of cloud).

## 24. SSR - Transponder When the aircraft carries serviceable Mode C transponder, the pilot shall continuously operate this mode

- a) Unless otherwise directed by AT
- b) Only when the aircraft is flying within controlled airspace.
- c) Only when the aircraft is flying within controlled airspace. regardless of ATC instructions.
- d) Only when directed by AT

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**25. Which one of the following disturbances is most likely to cause the greatest inaccuracy in ADF bearings?**

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- a) Quadrantal error
- b) Coastal effect
- c) Precipitation interference
- d) Skywave distortion of the null position and is maximum at dawn and dusk

**26. In the northern hemisphere, during the take-off run in an easterly direction, a direct reading magnetic compass indicates:**

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- a) No apparent turn.
- b) An apparent turn to approximately the heading 100°.
- c) An apparent turn to the south.
- d) An apparent turn to the north.

**27. What is the radiotelephony call sign for the aeronautical station providing flight information service:**

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- a) FLIGHT INFORMATION CENTRE
- b) FLIGHT CENTRE
- c) INFORMATION
- d) CONTROL

**28. During poor weather conditions a pilot should fly with reference to instruments because:**

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- a) His attention will be distracted automatically under these conditions
- b) Perception of distance and speed is difficult in an environment of low contrast
- c) Pressure differences can cause the altimeter to give wrong information
- d) The danger of a 'greying out' will make it impossible to determine the height above the terrain

**29. Except for airplanes under 5,7 t airworthiness certificate of which is subsequent to 31 march 1998, a flight data recording system must be able to store the recorded data for a minimum of the last:**

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- a) 30 minutes.
- b) 10 hours.
- c) 60 minutes.
- d) 25 hours.

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## 30. RADAR instructs aircraft X-BC:'X-BC squawk ident'. What does this mean:

- a) Radar identification has been achieved by correlating an observed radar blip with aircraft XY-ABC
- b) X-BC should perform an identification turn of at least 020 degrees
- c) X-BC shall operate the IDENT button
- d) X-BC shall reselect his assigned mode and code

## 31. Aircraft 'A' with an ATC clearance is flying in VMC conditions within a control area. Aircraft 'B' with no ATC clearance is approaching at approximately the same altitude and on a converging course. Which has the right of way?

- a) Aircraft 'B' if 'A' is on its left
- b) Aircraft 'B' regardless of the direction 'A' is approaching
- c) Aircraft 'A' regardless of the direction which 'B' is approaching
- d) Aircraft 'A' if 'B' is on its right

## 32. An aircraft is flying at an indicated altitude of 16.000 ft. The outside air temperature is -30°C. What is the true altitude of the aircraft?

- a) 16.200 ft
- b) 18.600 ft
- c) What is the true altitude of the aircraft? 16.200 ft 18.600 ft 15.200 ft
- d) 13.500 ft

## 33. Which of the following is the datum for altitude information when conducting flights under IFR conditions on airways using the NAVSTAR/GPS satellite navigation system?

- a) Barometric altitude
- b) GPS altitude if 4 or more satellites are received otherwise barometric altitude
- c) GPS altitude
- d) Flight envelope and system limits

## 34. The rate and depth of breathing is primarily regulated by the concentration of:

- a) Carbon dioxide in the blood
- b) Oxygen in the cells
- c) Water vapour in the alveoli
- d) Nitrogen in the air

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**35. 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:

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

**36. The time is 4:15 P.M. What is the correct way of transmitting this time if there is any possibility of confusion about the hour?**

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- a) Sixteen fifteen
- b) Four fifteen P.M.
- c) Four fifteen in the afternoon
- d) One six one five

**37. Concerning the TCAS (Traffic Collision Avoidance System):**

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- a) In one of the system modes, the warning: 'PULL UP' is generated
- b) In one of the system modes, the warning: 'TOO LOW TERRAIN' is generated
- c) Resolution Advisory (RA) must not be followed without obtaining clearance from ATC
- d) No protection is available against aircraft not equipped with a serviceable SSR transponder

**38. A higher outside air temperature (OAT):**

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- a) Increases the climb limited take-off mass
- b) Increases the field length limited take-off mass
- c) Decreases the take-off distance
- d) Decreases the brake energy limited take-off mass

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

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- a) VLO for the lower limit and VNE for the upper limit
- b) VNO for the lower limit and VNE for the upper limit
- c) VFE for the lower limit and VNE for the upper limit
- d) VLE for the lower limit and VNE for the upper limit



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**40. In a modern hydraulic system, 'hydraulic fuses' can be found. Their function is:**

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- a) To Isolate A Part Of The System And Protect It Against Accidental Pollution.
- b) To switch to the secondary system in case of a leak in the primary brake system.
- c) To allow by-passing of a hydraulic pump in case it is subject to excessive pressure, without further damage to the system.
- d) To prevent total system loss in case of a leaking hydraulic line.

**41. CRM and MCC training are designed to improve:**

---

- a) Individual achievement
- b) The quality of crew performance
- c) The quality and a number of individuals' performance
- d) Individual efficiency and contribution

**42. How many feet you have to climb to reach FL 75? Given: FL 75 departure aerodrome elevation 1500' QNH = 1023 hPa temperature = ISA 1 hPa = 30'**

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- a) 6000'
- b) 6300'
- c) 7800'
- d) 5700'

**43. What is the purpose of an auto-slat system?**

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- a) Provide automatically slat IN selection after take-off
- b) Extend automatically when a certain value of angle of attack is exceeded
- c) Assist the ailerons during rolling
- d) Ensures that the slats are always extended when the ground/flight system is in the 'ground' position

**44. What is the result of a large take off flap setting compared to a small take off flap setting on required Take-off Distance (TOD) and the field length limited Take-off Mass (TOM)?**

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- a) Increased TOD required and decreased field length limited TOM
- b) Decreased TOD required and increased field length limited TOM
- c) Decreased TOD required and decreased field length limited TOM
- d) Increased TOD required and increased field length limited TOM

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**45. When are outboard ailerons (if present) de-activated?**

- a) Flaps (and slats) retracted or speed above a certain value
- b) Landing gear extended
- c) Landing gear retracted
- d) Flaps (and/or slats) extended or speed below a certain value

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**46. Which phrase shall be used if the repetition of an entire message is required:**

- a) Say again
- b) Repeat your last transmission
- c) What was your message?
- d) Repeat your message

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**47. During deceleration following a landing in a southerly direction, a magnetic compass made for the northern hemisphere indicates:**

- a) An apparent turn to the east.
- b) An apparent turn to the west.
- c) No apparent turn.
- d) No apparent turn only on northern latitudes.

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**48. The spin axis of the turn indicator gyro is aligned along the:**

- a) Lateral axis of the aircraft.
- b) Longitudinal axis of flight.
- c) Vertical axis of the aircraft.
- d) Longitudinal axis of the aircraft.

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**49. Astronomic precession:**

- a) Causes an apparent spin of heading gyro to the left in the southern hemisphere
- b) Is zero at the South pole
- c) Is zero at the North pole
- d) Causes an apparent spin of heading gyro to the right in the southern hemisphere

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**50. If the GPWS (Ground Proximity Warning System) activates, and alerts the pilot with an aural warning 'DON'T SINK' (twice), it is because:**

- a) The aircraft experiences an unexpected proximity to the terrain, with landing gear retracted.
- b) At too low altitude, the aircraft has an excessive rate of descent.
- c) During take-off or missed approach manoeuvre, the aircraft has started to lose altitude.
- d) The aircraft experiences an unexpected proximity to terrain, without landing-flap selected.

**51. According EASA CS25 the worst effect of a HAZARDOUS Condition on the aeroplane could be:**

- a) Hull Loss
- b) Slight reduction in functional capabilities or safety margins
- c) Large reduction in functional capabilities or safety margins
- d) Significant Reduction In Functional Capabilities Or Safety Margins

**52. Fastair 345 is instructed to contact Stephenville RADAR on channel 132.010 MHz. How would Fastair 345 advise RADAR that it is not 8.33 KHz equipped?**

- a) Negative eight point three three
- b) Negative on 132.008
- c) Negative channel 132.0083
- d) Negative frequency 132.010

**53. The determination of the maximum mass on brake release, of a certified turbojet aeroplane with 5°, 15° and 25° flap angles on take-off, leads to the following values: Flap angle: 5° 15° 25° Runway limitation (kg): 66000 69500 71500 2nd segment climb limitation: 72200 69000 61800 Wind correction: Headwind: +120 kg / KT Tailwind: -360 kg / KT Given that the tailwind component is equal to 5 KT, the maximum mass on brake release and corresponding flap angle will be:**

- a) 69000 kg / 15 deg
- b) 67700 kg / 15 deg
- c) 69700 kg / 25 deg
- d) 72200 kg / 5 deg

**54. The fuel supply system on a jet engine includes a fuel heating device, upstream of the main fuel filter so as to:**

- a) Prevent, at low fuel temperature, the risk of ice formation from water contained in the fuel.
- b) Prevent fuel from freezing in fuel pipes due to low temperatures at high altitude.
- c) Ease low pressure pumps work by increasing fuel fluidity.
- d) Maintain And Improve Fuel Heating Power.

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**55. A twin engine aeroplane in cruise flight with one engine inoperative has to fly over high ground. In order to maintain the highest possible altitude the pilot should choose:**

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- a) The long range speed
- b) The speed corresponding to the minimum value of  $(\text{lift} / \text{drag})^{3/2}$
- c) The speed corresponding to the maximum value of the lift / drag ratio
- d) The speed at the maximum lift

**56. The manoeuvre stability of a large jet transport aeroplane is 280 N / g. What stick force is required, if the aeroplane is pulled to the limit manoeuvring load factor from a trimmed horizontal straight and steady flight? (cruise configuration)**

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- a) 770 N
- b) 420 N
- c) 1050 N
- d) 630 N

**57. If you decrease the propeller pitch during a glide with idle-power at constant IAS the lift to drag ratio will:**

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- a) Increase and the rate of descent will increase
- b) Decrease and the rate of descent will decrease
- c) Decrease and the rate of descent will increase
- d) Increase and the rate of descent will decrease

**58. An air data computer**  
1. supplies the ground speed and the drift (angle)  
2. determines the total temperature and the true altitude  
3. receives the static pressure and the total pressure  
4. supplies the true airspeed to the inertial unit  
5. determines the Mach number, the outside (static) air temperature  
The combination regrouping all the correct statements is:

---

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

**59. If the QNH at Locarno (200 metres above sea level) is 1015 hPa, what is the approximate QFE?**

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- a) 995 hPa
- b) 990 hPa
- c) 1005 hPa
- d) 1000 hPa

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**60. What is the frequency separation between consecutive frequencies in the VHF band:**

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- a) 25 KHz
- b) 75 KHz
- c) 8.33 KHz
- d) 50 KHz

**61. Refer to figure: Which figure in the appendix represents the geographic latitude of position P, which is situated above the surface of the ellipsoid?**

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- a) Figure
- b) Figure
- c) Figure
- d) Figure Figure

**62. You climb from 0 to 50.000 ft and measure the decrease of the pressure per 5.000 ft. The absolute difference in barometric pressure is greatest between:**

---

- a) 10.000 and 15.000 feet
- b) 5.000 and 10.000 feet
- c) 45.000 and 50.000 feet
- d) 0 and 5.000 feet

**63. The final reserve fuel for aeroplanes with turbine engines is**

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- a) Fuel to fly for 30 minutes at holding speed at 1500 ft (450 m) above aerodrome elevation in standard conditions.
- b) Fuel to fly for 60 minutes at holding speed at 1500 ft (450 m) above aerodrome elevation in standard conditions.
- c) Fuel to fly for 45 minutes at holding speed at 1000 ft (300 m) above aerodrome elevation in standard conditions.
- d) Fuel to fly for 45 minutes at holding speed at 1500 ft (450 m) above aerodrome elevation in standard conditions.

**64. The applicant to exercise the functions of an Instrument Flight Rating in \_\_\_\_\_ aeroplanes shall prove, according to Annex I, PERSONNEL LICENSING, his/her capability to pilot such aircraft only by instrument rules and an engine \_\_\_\_\_.**

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- a) Multi-engine / inoperative or simulated inoperative
- b) Single-engine/inactive
- c) Amphibious/inactive or simulated inactive
- d) Land/inactive

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**65. RADAR instructs aircraft X-BC:'X-BC squawk standby '. What does this mean?**

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- a) X-BC is requested to standby on the frequency
- b) X-BC is requested to standby for radar vectors
- c) X-BC is requested to switch to standby position
- d) X-BC is requested to standby as the radar controller is busy

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

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

**67. Which of the following cloud is classified as low level cloud?**

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- a) AS
- b) CS
- c) CC
- d) ST

**68. Given: True Heading = 180° TAS = 500 kt W/V 225° / 100 kt Calculate the GS?**

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- a) 600 kt
- b) 435 kt
- c) 450 kt
- d) 535 kt

**69. The TCAS 2 (Traffic Collision Avoidance System) gives avoidance resolutions:**

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- a) Only in the horizontal plane
- b) In horizontal and vertical planes
- c) Only in the vertical plane
- d) Based on speed control

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## 70. Morning Civil twilight begins when:

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- a) The centre of the Sun is 6° below the celestial horizon
- b) The Sun's upper edge is tangential to the celestial horizon
- c) The centre of the Sun is 18° below the celestial horizon
- d) The centre of the Sun is 12° below the celestial horizon

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## Schema Risposte

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

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