

# Exam simulation

SPL - Sailplane Pilot License - Human Performance and limitations



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STUDENT NAME:

DATE AND TIME:

**01. Which altitude marks the lower limit where the body is unable to completely compensate the effects of the low atmospheric pressure?**

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- a) 5000 feet
- b) 22000 feet
- c) 12000 feet
- d) 7000 feet

**02. The thickness of the wing is defined as the distance between the lower and the upper side of the wing at the...**

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- a) Thinnest part of the wing
- b) Most inner part of the wing
- c) Thickest part of the wing
- d) Most outer part of the wing

**03. During airtow, the towing plane disappears from the glider pilot's sight. What action should be taken by the glider pilot?**

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- a) Decouple cable immediately
- b) Alternate push and pull on the elevator
- c) Alternate turn to the left and to the right
- d) Extend spoiler flaps and return to normal attitude

**04. The airspeed indicator is unservicable. The airplane may only be operated...**

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- a) If no maintenance organisation is around
- b) If only airfield patterns are flown
- c) When the airspeed indicator is fully functional again
- d) When a GPS with speed indication is used during flight

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## 05. Complacency is a risk due to...

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- a) Increased cockpit automation
- b) The high error rate of technical systems
- c) The high number of mistakes normally made by humans
- d) Better training options for young pilots

## 06. The fuselage structure may be damaged by...

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- a) Airspeed decreasing below a certain value
- b) Neutralizing stick forces according to actual flight state
- c) Exceeding the manoeuvring speed in heavy gusts
- d) Stall after exceeding the maximum angle of attack

## 07. In a METAR, "heavy rain" is designated by the identifier...

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- a) RA
- b) +RA
- c) SHRA
- d) +SHRA

## 08. How does inflowing cold air affect the shape and vertical distance between pressure layers?

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- a) Increasing vertical distance, raise in height (high pressure)
- b) Decreasing vertical distance, raise in height (high pressure)
- c) Decrease in vertical distance, lowering in height (low pressure)
- d) Increase in vertical distance, lowering in height (low pressure)

## 09. How can a wind shear encounter in flight be avoided?

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- a) Avoid thermally active areas, particularly during summer, or stay below these areas
- b) Avoid areas of precipitation, particularly during winter, and choose low flight altitudes
- c) Avoid take-off and landing during the passage of heavy showers or thunderstorms
- d) Avoid take-offs and landings in mountainous terrain and stay in flat country whenever possible

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## 10. What is the meaning of an area marked as "TMZ"?

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- a) Transponder Mandatory Zone
- b) Transportation Management Zone
- c) Touring Motorglider Zone
- d) Traffic Management Zone

## 11. When has a pre-flight check to be done?

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- a) Before first flight of the day, and after every change of pilot
- b) After every build-up of the airplane
- c) Once a month, with TMG once a day
- d) Before flight operation and before every flight

## 12. Unless the aircraft is equipped and certified accordingly...

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- a) Flight into forecast icing conditions is prohibited. Should the aircraft enter an area of icing conditions inadvertently, the flight may be continued as long as visual meteorological conditions are maintained
- b) Flight into known or forecast icing conditions is only allowed as long as it is ensured that the aircraft can still be operated without performance degradation
- c) Flight into known or forecast icing conditions is prohibited. Should the aircraft enter an area of icing conditions inadvertently, it should be left without delay
- d) Flight into areas of precipitation is prohibited

## 13. Pressure compensation on a wing occurs at the...

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- a) Wing tips
- b) Leading edge
- c) Trailing edge
- d) Wing roots

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## 14. In which way may an altimeter subscale which is set to an incorrect QNH lead to an incorrect altimeter reading?

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- a) If the subscale is set to a higher than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended
- b) If the subscale is set to a lower than actual pressure, the indication is too low. This may lead to much closer proximity to the ground than intended
- c) If the subscale is set to a higher than actual pressure, the indication is too low. This may lead to much greater heights above the ground than intended
- d) If the subscale is set to a lower than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended

## 15. What conditions are favourable for the formation of thunderstorms?

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- a) Calm winds and cold air, overcast cloud cover with St or As
- b) Warm and dry air, strong inversion layer
- c) Warm humid air, conditionally unstable environmental lapse rate
- d) Clear night over land, cold air and patches of fog

## 16. Which parts of an aircraft mainly affect the generation of induced drag?

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- a) The front part of the fuselage
- b) The outer part of the ailerons
- c) The lower part of the gear
- d) The wing tips

## 17. What is the meaning of the phrase "Correction"?

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- a) I have received all of your last transmission
- b) I understand your message and will comply with it
- c) Permission for proposed action is granted
- d) An error has been made in this transmission. The correct version is...

## 18. What does a cloud coverage of "BKN" mean in a METAR weather report?

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- a) 1 to 2 eighths
- b) 5 to 7 eighths
- c) 3 to 4 eighths
- d) 8 eighths

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**19. A transponder with the ability to send the current pressure level is a...**

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- a) Transponder approved for airspace "B".
- b) Mode C or S transponder.
- c) Pressure-decoder.
- d) Mode A transponder.

**20. In which situation is radio mandatory zone (RMZ) entry allowed without establishing radio contact?**

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- a) There are other aircraft in the aerodrome circuit
- b) It is the aerodrome of departure
- c) It is the destination aerodrome
- d) Approval has been granted before

**21. What is the correct way of acknowledging the instruction "Squawk 4321, Call Bremen Radar on 131.325"?**

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- a) Roger
- b) Squawk 4321, 131.325
- c) Squawk 4321, wilco
- d) Wilco

**22. Given: True course: 165°. TAS: 90 kt. Wind: 130°/20 kt. Distance: 153 NM. The true heading equals...**

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- a) 152°
- b) 158°
- c) 165°
- d) 126°

**23. Visual illusions are mostly caused by...**

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- a) Binocular vision
- b) Colour blindness
- c) Rapid eye movements
- d) Misinterpretation of the brain

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## 24. Collisions during circling within thermal updrafts can be avoided by...

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- a) Alternate circling with opposite directions in different heights
- b) Imitating the movements of the preceding gliding plane
- c) Coordination of plane movements with other aircrafts circling within the same updraft
- d) Fast approach into the updraft and rapidly pulling the elevator for slower speed

## 25. Which of the following qualities are influenced by stress? 1. Attention 2. Concentration 3. Responsiveness 4. Memory

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

## 26. During a flight in an air mass with a temperature equal to ISA and the QNH set correctly, the indicated altitude is...

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- a) Lower than the true altitude
- b) Equal to the standard atmosphere
- c) Higher than the true altitude
- d) Equal to the true altitude

## 27. Which statement about a rhumb line is correct?

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- a) A rhumb line is a great circle intersecting the equator with 45° angle.
- b) The center of a complete cycle of a rhumb line is always the Earth's center.
- c) A rhumb line cuts each meridian at the same angle.
- d) The shortest track between two points along the Earth's surface follows a rhumb line.

## 28. QFE is the...

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- a) Altitude above the reference pressure level 1013.25 hPa
- b) Magnetic bearing to a station
- c) Barometric pressure adjusted to sea level, using the international standard atmosphere (ISA)
- d) Barometric pressure at a reference datum, typically the runway threshold of an airfield

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## 29. What is the subject of ICAO Annex 1?

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- a) Flight crew licensing
- b) Air traffic services
- c) Rules of the air
- d) Operation of aircraft

## 30. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125?

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- a) 8000 m
- b) 1500 m
- c) 5000 m
- d) 3000 m

## 31. What is the percentage of oxygen in the atmosphere at 6000 ft?

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- a) 78 %
- b) 12 %
- c) 21 %
- d) 18.9 %

## 32. What is the best combination of traits with respect to the individual attitude and behaviour for a pilot?

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- a) Introverted - stable
- b) Introverted - unstable
- c) Extroverted - stable
- d) Extroverted - unstable

## 33. A vertical speed indicator measures the difference between...

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- a) Total pressure and static pressure
- b) Dynamic pressure and total pressure
- c) Instantaneous static pressure and previous static pressure
- d) Instantaneous total pressure and previous total pressure

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## 34. Which factor can lead to human error?

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- a) Proper use of checklists
- b) The bias to see what we expect to see
- c) Double check of relevant actions
- d) To be doubtful if something looks unclear or ambiguous

## 35. The gliding weather report states environmental instability. In the morning, dew covers grass and no thermals are presently active. What development can be expected for thermal activity?

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- a) Formation of dew prevents all thermal activity during the following day
- b) With ongoing insolation and ground warming, thermal lifting is likely to begin
- c) Environmental instability prevents air from being lifted and no thermals will be generated
- d) After sunset and formation of a ground-level inversion thermal activity is likely to begin

## 36. What is a cause for the dip error on the direct-reading compass?

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- a) Acceleration of the airplane
- b) Temperature variations
- c) Deviation in the cockpit
- d) Inclination of earth's magnetic field lines

## 37. What is the function of the horizontal tail (among other things)?

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- a) To stabilise the aeroplane around the longitudinal axis
- b) To stabilise the aeroplane around the lateral axis
- c) To initiate a curve around the vertical axis
- d) To stabilise the aeroplane around the vertical axis

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**38. (For this question, please use annex PFP-063) According to ICAO, what symbol indicates a general spot elevation?**

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- A 300
- B (300)
- C • 1737
- D • 1737

PFP-063

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

**39. The term "runway" is defined as a...**

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- a) Round area on an aerodrome prepared for the landing and take-off of aircraft
- b) Rectangular area on a land aerodrome prepared for the landing and take-off of helicopters.
- c) Rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.
- d) Rectangular area on a land or water aerodrome prepared for the landing and take-off of aircraft.

**40. What has to be considered with regard to the center of gravity position?**

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- a) By moving the elevator trim tab, the center of gravity can be shifted into a correct position
- b) Only correct loading can assure a correct and safe center of gravity position
- c) The center of gravity's position can only be determined during flight
- d) By moving the aileron trim tab, the center of gravity can be shifted into a correct position

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## 41. Electronic devices on board of an aeroplane have influence on the...

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- a) Direct reading compass
- b) Airspeed indicator
- c) Turn coordinator
- d) Artificial horizon

## 42. The term "tropopause" is defined as...

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- a) The layer above the troposphere showing an increasing temperature
- b) The height above which the temperature starts to decrease
- c) The boundary area between the troposphere and the stratosphere
- d) The boundary area between the mesosphere and the stratosphere

## 43. What is the correct way of acknowledging the instruction "DZF after lift-off climb straight ahead until 2500 feet before turning right heading 220 degrees, wind 090 degrees, 5 knots, runway 12, cleared for take-off"?

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- a) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots
- b) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots, cleared for take-off
- c) DZF after lift-off climb straight ahead 2500 feet, wilco, heading 220 degrees, 090 degrees, 5 knots, cleared for take-off
- d) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, runway 12, cleared for take-off

## 44. Which force causes "wind"?

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- a) Centrifugal force
- b) Pressure gradient force
- c) Coriolis force
- d) Thermal force

## 45. What is the meaning of "DETRESFA"?

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- a) Distress phase
- b) Alerting phase
- c) Uncertainty phase
- d) Rescue phase

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**46. The height of the tropopause of the International Standard Atmosphere (ISA) is at...**

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- a) 36000 ft
- b) 5500 ft
- c) 48000 ft
- d) 11000 ft

**47. During an approach the aeroplane experiences a windshear with a decreasing headwind. If the pilot does not make any corrections, how do the approach path and the indicated airspeed (IAS) change?**

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- a) Path is higher, IAS increases
- b) Path is lower, IAS decreases
- c) Path is lower, IAS increases
- d) Path is higher, IAS decreases

**48. What is the required flight time for a distance of 236 NM with a ground speed of 134 kt?**

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- a) 1:34 h
- b) 0:34 h
- c) 0:46 h
- d) 1:46 h

**49. A plane flying below an extended Cumulus cloud developing into a thunderstorm, the glider plane quickly approaches the cloud base. What actions have to be taken by the glider pilot?**

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- a) Extend spoiler flaps within speed limits, leave thermal lift area with maximum permissible speed
- b) Fasten seat belts, be aware of severe gust during further thermaling
- c) Reduce to minimum speed, leave thermal lift area in a flat turn
- d) Climb into thunderstorm cloud, continue flight using instruments

**50. An energy-compensated vertical speed indicator (VSI) shows during stationary glide the vertical speed...**

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- a) Of the glider through surrounding air
- b) Of the airmass flown through
- c) Of the glider plus movement of the air
- d) Of the glider minus movement of the air

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## 51. Urgency messages are defined as...

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- a) Messages concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance
- b) Messages concerning urgent spare parts which are needed for a continuation of flight and which need to be ordered in advance
- c) Information concerning the apron personnel and which imply an imminent danger to landing aircraft
- d) Messages concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight

## 52. What difference in altitude is shown by an altimeter, if the reference pressure scale setting is changed from 1000 hPa to 1010 hPa?

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- a) Zero
- b) 80 m less than before
- c) 80 m more than before
- d) Values depending on QNH

## 53. The term "moment" with regard to a mass and balance calculation is referred to as...

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- a) Sum of a mass and a balance arm
- b) Difference of a mass and a balance arm
- c) Quotient of a mass and a balance arm
- d) Product of a mass and a balance arm

## 54. Which cockpit instruments are connected to the static port?

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- a) Airspeed indicator, direct-reading compass, slip indicator
- b) Airspeed indicator, altimeter, direct-reading compass
- c) Altimeter, slip indicator, navigational computer
- d) Altimeter, vertical speed indicator, airspeed indicator

## 55. After getting around a turning point, what should a glider pilot be prepared for?

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- a) For weakening thermals due to the progressing time
- b) For a changed horizontal picture due to lower cloud bases
- c) For increased cloud dissipation due to the progressing time
- d) For a changed cloud picture due to the apparently changed position of the sun

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56. What is the distance from Neustadt (EDAN) (53°22'N, 011°37'E) to Uelzen (EDVU) (52°59'N, 10°28'E)?



- a) 46 km
- b) 46 NM
- c) 78 km
- d) 78 nm

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**57. The empty weight and the corresponding center of gravity (CG) of an aircraft are initially determined...**

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- a) By weighing
- b) By calculation
- c) For one aircraft of a type only, since all aircraft of the same type have the same mass and CG position
- d) Through data provided by the aircraft manufacturer

**58. Through which factor listed below does the load factor increase during cruise flight?**

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- a) Lower air density
- b) A forward centre of gravity
- c) Higher aeroplane weight
- d) An upward gust

**59. What has to be expected with ice accretion on wings?**

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- a) An increased stall speed
- b) A decreased stall speed
- c) Improved slow flight capabilities
- d) Reduced friction drag

**60. Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts?**

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- a) Wind chart
- b) Surface weather chart
- c) Prognostic chart
- d) Hypsometric chart

**61. "Longitudinal stability" is referred to as stability around which axis?**

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- a) Lateral axis
- b) Propeller axis
- c) Longitudinal axis
- d) Vertical axis

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## 62. A true altitude is...

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- a) A height above ground level corrected for non-standard temperature
- b) A height above ground level corrected for non-standard pressure
- c) An altitude above mean sea level corrected for non-standard temperature
- d) A pressure altitude corrected for non-standard temperature

## 63. What is the correct term for the system which, among others, controls breathing, digestion, and heart frequency?

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- a) Critical nervous system
- b) Autonomic nervous system
- c) Automatical nervous system
- d) Compliant nervous system

## 64. The angle between the true course and the true heading is called...

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- a) Variation
- b) Inclination
- c) Deviation
- d) WCA

## 65. Moderate to severe turbulence has to be expected...

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- a) Below thick cloud layers on the windward side of a mountain range
- b) Overhead unbroken cloud layers
- c) On the lee side of a mountain range when rotor clouds are present
- d) With the appearance of extended low stratus clouds (high fog)

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66. Up to which altitude is an overflight prohibited according to the NOTAM? See figure (PFP-024)

A4604/11 NOTAMN

Q)

EDWW/QROLP/IV/NBO/W/000/095/5155N01037E004

A) EDWW

B) 1111180800 C) 1111181200

E) OVERFLYING PROHIBITED FOR ALL TRAFFIC RADIUS  
3.35NM CENTERED AROUND 515436N 0103725E DUE  
TO DEMOLITION OF EXPLOSIVES AT ECKERTHAL,  
(25NM S BRAUNSCHWEIG NDB BRU).

F) GND

G) 9500 FT AMSL

- a) Altitude 9500 ft MSL
- b) Flight Level 95
- c) Altitude 9500 m MSL
- d) Height 9500 ft

67. Where can the type of restriction for a restricted airspace be found?

- a) AIC
- b) ICAO chart 1:500000
- c) AIP
- d) NOTAM

68. An aircraft must be loaded and operated in such a way that the center of gravity (CG) stays within the approved limits during all phases of flight. This is done to ensure...

- a) That the aircraft does not exceed the maximum permissible airspeed during a descent
- b) Both stability and controllability of the aircraft
- c) That the aircraft does not tip over on its tail while it is being loaded
- d) That the aircraft does not stall

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**69. How are the flight controls on a small single-engine piston aircraft normally controlled and actuated?**

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- a) Manually through rods and control cables
- b) Hydraulically through hydraulic pumps and actuators
- c) Electrically through fly-by-wire
- d) Power-assisted through hydraulic pumps or electric motors

**70. Which statement concerning the angle of attack is correct?**

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- a) Increasing the angle of attack results in decreasing lift
- b) The angle of attack cannot be negative
- c) A too large angle of attack may result in a loss of lift
- d) The angle of attack is constant throughout the flight

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## Response Scheme

Compare your answers with the following diagram and mark your score!

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

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## Response form

Use this form to mark your answers

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