

# Exam simulation

SPL - Sailplane Pilot License - Human Performance and limitations



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STUDENT NAME:

DATE AND TIME:

## 01. The majority of aviation accidents are caused by...

- a) Technical failure.
- b) Meteorological influences.
- c) Human failure.
- d) Geographical influences.

## 02. What is meant by "inversion layer"?

- a) An atmospheric layer where temperature increases with increasing height
- b) An atmospheric layer where temperature decreases with increasing height
- c) An atmospheric layer with constant temperature with increasing height
- d) A boundary area between two other layers within the atmosphere

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

- 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.

## 04. Which kinds of drag contribute to total drag?

- a) Interference drag and parasite drag
- b) Induced drag and parasite drag
- c) Induced drag, form drag, skin-friction drag
- d) Form drag, skin-friction drag, interference drag

## 05. The barometric altimeter with QFE setting indicates...

- a) True altitude above MSL.
- b) Height above the pressure level at airfield elevation.
- c) Height above MSL.
- d) Height above standard pressure 1013.25 hPa.

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**06. A movement around the longitudinal axis is primarily initiated by the...**

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- a) Elevator.
- b) Ailerons.
- c) Trim tab.
- d) Rudder

**07. An aircraft cruises on a heading of 180° with a true airspeed of 100 kt. The wind comes from 180° with 30 kt. Neglecting instrument and position errors, which will be the approximate reading of the airspeed indicator?**

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- a) 130 kt
- b) 100 kt
- c) 30 kt
- d) 70 kt

**08. What is the meaning of the phrase "Approved"?**

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

**09. An aircraft is flying at a pressure altitude of 7000 feet with an outside air temperature (OAT) of +21°C. The QNH altitude is 6500 ft. The true altitude equals...**

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- a) 6500 ft
- b) 6250 ft.
- c) 7000 ft.
- d) 6750 ft.

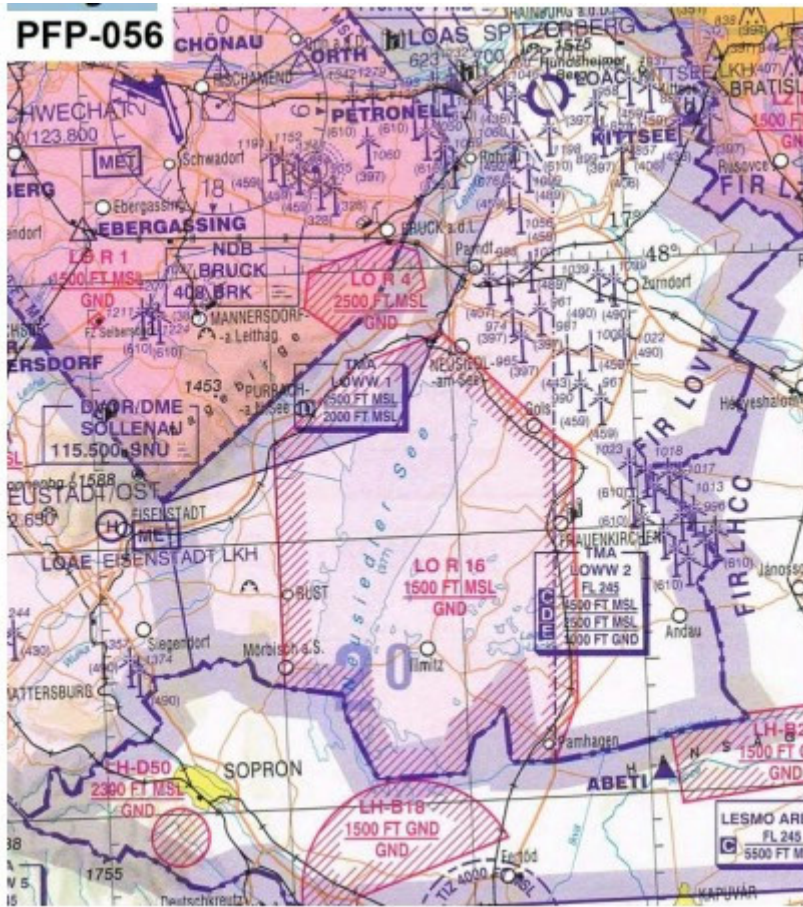
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## 10. The upper limit of LO R 16 equals... See annex (PFP-056) Siehe Anlage 1



- a) 1.500 ft GND.
- b) 1 500 ft MSL.
- c) 1 500 m MSL.
- d) FL150.

## 11. Which altitude is displayed on the altimeter when set to a specific QNH?

- a) Altitude in relation to mean sea level
- b) Altitude in relation to the 1013.25 hPa datum
- c) Altitude in relation to the highest elevation within 10 km
- d) Altitude in relation to the air pressure at the reference airfield

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

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

**13. What weather is likely to be experienced during "Foehn" in the Bavarian area close to the alps?**

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- a) Cold, humid downhill wind on the lee side of the alps, flat pressure pattern
- b) Nimbostratus cloud in the southern alps, rotor clouds at the lee side, warm and dry wind
- c) High pressure area overhead Biskaya and low pressure area in Eastern Europe
- d) Nimbostratus cloud in the northern alps, rotor clouds at the windward side, warm and dry wind

**14. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles? (2,00 P.) Siehe Anlage 4**

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PFP-061

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

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**15. Which phrase is to be repeated three times before transmitting an urgency message?**

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- a) Mayday
- b) Urgent
- c) Pan Pan
- d) Help

**16. What can be expected for the prevailing wind with isobars on a surface weather chart showing large distances?**

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- a) Low pressure gradients resulting in low prevailing wind
- b) Strong pressure gradients resulting in low prevailing wind
- c) Strong pressure gradients resulting in strong prevailing wind
- d) Low pressure gradients resulting in strong prevailing wind

**17. 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.

**18. What could be a reason for changing the runway indicators at aerodromes (e.g. from runway 06 to runway 07)?**

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- a) The magnetic variation of the runway location has changed
- b) The magnetic deviation of the runway location has changed
- c) The true direction of the runway alignment has changed
- d) The direction of the approach path has changed

**19. During a right turn, the yaw string is drawn to the left from center position. By what rudder input can the string be centered again?**

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- a) Less bank, less rudder in turn direction
- b) Less bank, more rudder in turn direction
- c) More bank, less rudder in turn direction
- d) More bank, more rudder in turn direction

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**20. An aeroplane has a heading of 090°. The distance which has to be flown is 90 NM. After 45 NM the aeroplane is 4.5 NM north of the planned flight path. What is the corrected heading to reach the arrival aerodrome directly?**

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- a) 18° to the right
- b) 9° to the right
- c) 6° to the right
- d) 12° to the right

**21. In order to improve the stall characteristics of an aircraft, the wing is twisted outwards (the angle of incidence varies spanwise). This is known as...**

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- a) Arrow shape.
- b) V-form
- c) Geometric washout.
- d) Aerodynamic washout.

**22. What is the meaning of "DETRESFA"?**

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

**23. An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt. The wind correction angle (WCA) equals...**

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- a) 7° left.
- b) 7° right.
- c) 3° right.
- d) 3° left.

**24. Following a single-wing stall and pitch-down moment, how can a spin be prevented?**

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- a) Deflect all rudders opposite to lower wing
- b) Rudder opposite lower wing, releasing elevator to build up speed
- c) Pushing the elevator to build up speed to re-attach airflow on wings
- d) Pulling the elevator to bring the plane back to normal attitude

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**25. The term "center of gravity" is defined as...**

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- a) Another designation for the neutral point.
- b) The heaviest point on an aeroplane.
- c) Half the distance between the neutral point and the datum line.
- d) Half the distance between the neutral point and the datum line.

**26. All aerodynamic forces can be considered to act on a single point. This point is called...**

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- a) Center of gravity.
- b) Lift point.
- c) Transition point.
- d) Center of pressure.

**27. Measured pressure distribution in MSL and corresponding frontal systems are displayed by the...**

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- a) Hypsometric chart
- b) Prognostic chart.
- c) Surface weather chart.
- d) Significant Weather Chart (SWC).

**28. During the last phase of a winch launch, the glider pilot does not release pull on the elevator. The automatic latch releases the cable at high wing load. What consequences have to be considered?**

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- a) A higher altitude can be reached using this technique
- b) Extreme stress on the structure of the glider plane
- c) This technique can compensate for insufficient wind correction
- d) Only by this sudden jerk the release of the cable can be assured

**29. An aircraft is flying with a true airspeed (TAS) of 120 kt and experiences 35 kt tailwind. How much time is needed for a distance of 185 NM?**

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- a) 1 h 12 min
- b) 2 h 11 min
- c) 0 h 50 min
- d) 1 h 32 min

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## 30. Which factor shortens landing distance?

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- a) Heavy rain
- b) High pressure altitude
- c) High density altitude
- d) Strong head wind

## 31. For what approximate time period can the short-time memory store information?

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- a) 3 to 7 seconds
- b) 10 to 20 seconds
- c) 35 to 50 seconds
- d) 30 to 40 seconds

## 32. The critical angle of attack...

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- a) Decreases with forward center of gravity position.
- b) Changes with increasing weight.
- c) Is independent of the weight.
- d) Increases with backward center of gravity position.

## 33. With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air?

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- a) At the equator
- b) At the subtropical high pressure belt
- c) At the polar front
- d) At the geographic poles

## 34. What is the purpose of the secondary flight controls?

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- a) To improve the performance characteristics of an aircraft and relieve the pilot of excessive control forces
- b) To improve the turn characteristics of an aircraft in the low speed regime during approach and landing
- c) To enable the pilot to control the aircraft's movements about its three axes
- d) To constitute a backup system for the primary flight controls



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## 35. The trim is used to...

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- a) Adapt the control force.
- b) Increase adverse yaw.
- c) Move the centre of gravity
- d) Lock control elements.

## 36. The mass loaded on the plane is lower than the minimum load required by the load sheet. What action has to be taken?

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- a) Trim aircraft to "pitch down"
- b) Change pilot seat position
- c) Change incident angle of elevator
- d) Load ballast weight up to minimum load

## 37. Information about maximum allowed airspeeds can be found where?

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- a) Airspeed indicator, cockpit panel and AIP part ENR
- b) POH, approach chart, vertical speed indicator
- c) POH and posting in briefing room
- d) POH, Cockpit panel, airspeed indicator

## 38. What structural item provides directional stability to an airplane?

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- a) Differential aileron deflection
- b) Wing dihedral
- c) Large elevator
- d) Large vertical tail

## 39. A Grey-out is the result of...

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- a) Hyperventilation.
- b) Tiredness.
- c) Hypoxia.
- d) Positive g-forces.

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**40. The ratio of span and mean chord length is referred to as...**

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- a) Trapezium shape.
- b) Tapering.
- c) Aspect ratio.
- d) Wing sweep.

**41. A frequency of 119.500 MHz is correctly transmitted as...**

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- a) One one niner decimal five zero.
- b) One one niner decimal five zero zero.
- c) One one niner decimal five.
- d) One one niner tousand decimal five zero.

**42. What danger is most imminent when an aircraft is hit by lightning?**

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- a) Explosion of electrical equipment in the cockpit
- b) Surface overheat and damage to exposed aircraft parts
- c) Rapid cabin depressurization and smoke in the cabin
- d) Disturbed radio communication, static noise signals

**43. 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.

**44. What is the status of the rules and procedures created by the EASA? (e.g. Part-SFCL, Part-MED)**

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- a) They are not legally binding, they only serve as a guide
- b) Only after a ratification by individual EU member states they are legally binding
- c) They are part of the EU regulation and legally binding to all EU member states
- d) They have the same status as ICAO Annexes

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**45. The holder of an SPL license or LAPL(S) license completed a total of 9 winch launches, 4 launches in aero-tow and 2 bungee launches during the last 24 months. What launch methods may the pilot conduct as PIC today?**

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- a) Winch and bungee.
- b) Winch, bungee and aero-tow.
- c) Winch and aero-tow.
- d) Aero-tow and bungee.

**46. Which point on the aerofoil is represented by number 1? See figure (PFA-009) Siehe Anlage 2**

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- a) Center of pressure
- b) Stagnation point
- c) Stagnation point
- d) Transition point

**47. Stability around which axis is mainly influenced by the center of gravity's longitudinal position?**

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

**48. 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.

**49. What weather phenomena have to be expected around an upper-level trough?**

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- a) Calm weather, formation of lifted fog layers
- b) Calm wind, forming of shallow cumulus clouds
- c) Development of showers and thunderstorms (Cb)
- d) Formation of high stratus clouds, ground-covering cloud bases

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## 50. An aerodrome beacon (ABN) is a...

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- a) Fixed beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air
- b) Rotating beacon installed at the beginning of the final approach to indicate its location to aircraft pilots from the air.
- c) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air.
- d) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the ground.

## 51. During a stall, the lift...

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- a) Decreases and drag increases.
- b) Increases and drag increases.
- c) Decreases and drag decreases
- d) Increases and drag decreases.

## 52. A pilot can contact FIS (flight information service)...

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- a) By a personal visit.
- b) Via telephone.
- c) Via radio communication.
- d) Via internet.

## 53. Which runway designators are correct for 2 parallel runways?

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- a) "26" and "26R"
- b) "06L" and "06R"
- c) "18" and "18-2"
- d) "24" and "25"

## 54. Which of the following options states all primary flight controls of an aircraft?

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- a) Flaps, slats, speedbrakes
- b) Elevator, rudder, aileron, trim tabs, high-lift wing devices, power controls
- c) Elevator, rudder, aileron
- d) All movable parts on the aircraft which aid in controlling the aircraft

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**55. During a cross-country flight, you approach a downwind turning point. The point should be taken ... (2,00 P.)**

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- a) As low as possible.
- b) As steep as possible.
- c) As high as possible.
- d) With as less bank as possible

**56. The connection between middle ear and nose and throat region is called...**

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- a) Inner ear.
- b) Eardrum.
- c) Cochlea.
- d) Eustachian tube.

**57. The term 'True Course' (TC) is defined as...**

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- a) The direction from an arbitrary point on Earth to the magnetic north pole.
- b) The direction from an arbitrary point on Earth to the geographic North Pole.
- c) The angle between magnetic north and the course line.
- d) The angle between true north and the course line.

**58. The required data for a mass and balance calculation including masses and balance arms can be found in the...**

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- a) Certificate of airworthiness
- b) Mass and balance section of the pilot's operating handbook of this particular aircraft.
- c) Performance section of the pilot's operating handbook of this particular aircraft.
- d) Documentation of the annual inspection.

**59. A vertical speed indicator connected to a too big equalizing tank results in...**

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- a) Mechanical overload
- b) No indication
- c) Indication too low
- d) Indication too high

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**60. What danger is most imminent during an approach to an airfield situated in a valley, with strong wind aloft blowing perpendicular to the mountain ridge?**

- a) Reduced visibility, maybe loss of sight to the airfield during final approach
- b) Wind shear during descent, wind direction may change by 180°
- c) Formation of medium to heavy clear ice on all aircraft surfaces
- d) Heavy downdrafts within rainfall areas below thunderstorm clouds

**61. Up to which altitude is an overflight prohibited according to the NOTAM? See figure (PFP-024) Siehe Anlage 3**

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

**62. 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"?**

- 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

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## 63. A Pre-Flight Information Bulletin (PIB) is a presentation of current...

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- a) AIC information of operational significance prepared after the flight.
- b) AIP information of operational significance prepared prior to flight.
- c) NOTAM information of operational significance prepared prior to flight.
- d) ICAO information of operational significance prepared after the flight.

## 64. How are rhumb lines and great circles depicted on a direct Mercator chart?

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- a) Rhumb lines: straight lines Great circles: curved lines
- b) Rhumb lines: straight lines Great circles: straight lines
- c) Rhumb lines: curved lines Great circles: straight lines
- d) Rhumb lines: curved lines Great circles: curved lines

## 65. Differential aileron deflection is used to...

---

- a) Reduce wake turbulence.
- b) Avoid a stall at low angles of attack.
- c) Keep the adverse yaw low.
- d) Increase the rate of descent.

## 66. An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt. The groundspeed (GS) equals...

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- a) 155 kt.
- b) 172 kt.
- c) 168 kt.
- d) 159 kt.

## 67. The total weight of an aeroplane is acting vertically through the...

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- a) Stagnation point.
- b) Center of pressure.
- c) Neutral point.
- d) Center of gravity

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**68. The term "ceiling" is defined as the...**

- a) Height of the base of the highest layer of clouds covering more than half of the sky below 20000 ft.
- b) Height of the base of the lowest layer of clouds covering more than half of the sky below 10000 ft.
- c) Height of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.
- d) Altitude of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.

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**69. Which of the following messages has the highest priority?**

- a) Turn left
- b) Wind 300 degrees, 5 knots
- c) Request QDM
- d) QNH 1013

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**70. Baggage and cargo must be properly stowed and fastened, otherwise a shift of the cargo may cause...**

- a) Calculable instability if the C.G. is shifting by less than 10 %.
- b) Continuous attitudes which can be corrected by the pilot using the flight controls.
- c) Structural damage, angle of attack stability, velocity stability.
- d) Uncontrollable attitudes, structural damage, risk of injuries.



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## Response Scheme

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

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

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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: _____		