

Exam simulation

SPL - Sailplane Pilot License - Human Performance and limitations



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STUDENT NAME:

DATE AND TIME:

01. Which force causes "wind"?

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

02. The compass error caused by the aircraft's magnetic field is called...

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

03. A glider's trim lever is used to...

- a) Reduce stick force on the elevator
- b) Reduce stick force on the ailerons
- c) Reduce stick force on the rudder
- d) Reduce the adverse yaw

04. What is the result of extending flaps with increasing aerofoil camber?

- a) Maximum permissible speed increases
- b) Minimum speed increases
- c) Minimum speed decreases
- d) C.G. position moves forward

05. A Grey-out is the result of...

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

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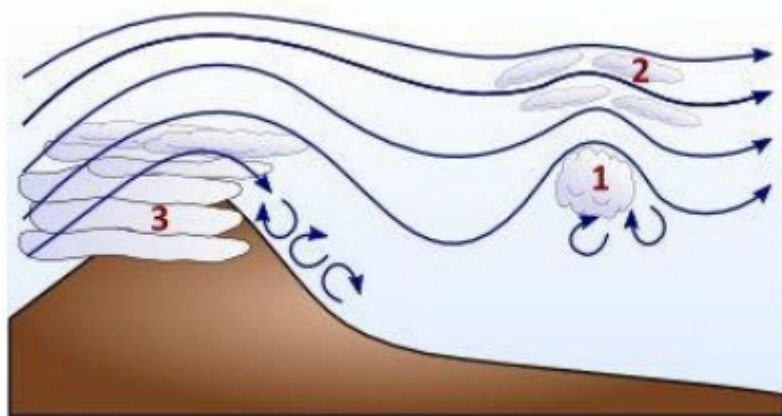


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06. What negative impacts may be expected during circling overhead industrial facilities?

- a) Health impairments by pollutants, reduced Visibility and turbulences
- b) Strong electrostatic charging and deterioration in radio communication
- c) Very poor visibility of only few hundred meters and heavy precipitation
- d) Extended, strong downwind areas on the lee side of the facility

07. What weather phenomenon designated by "2" has to be expected on the lee side during "Foehn" conditions? See figure (MET-001)



- a) Cumulonimbus
- b) Altocumulus lenticularis
- c) Altocumulus Castellanus
- d) Nimbostratus

08. Which are the different parts of the Aeronautical Information Publication (AIP)?

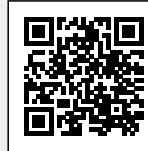
- a) GEN MET RAC
- b) GEN AGA COM
- c) GEN COM MET
- d) GEN ENR AD

09. A gliding plane being airtowed gets into an excessive high position behind the towing plane. What action by the glider pilot can prevent further danger for glider and towing plane?

- a) Initiate a sideslip to reduce excessive height
- b) Pull strongly, thereafter decouple the cable
- c) Carefully extend spoiler flaps, steer glider back into normal position
- d) Push strongly to bring glider back to normal position

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10. What is the parallax error?

- a) Wrong interpretation of instruments caused by the angle of vision
- b) Misperception of speed during taxiing
- c) Long-sightedness due to aging especially during night
- d) A decoding error in communication between pilots

11. The ongoing process to monitor the current flight situation is called...

- a) Situational thinking
- b) Situational awareness
- c) Anticipatory check procedure
- d) Constant flight check

12. What is the purpose of "interception lines" in visual navigation?

- a) They are used as easily recognizable guidance upon a possible loss of orientation
- b) They help to continue the flight when flight visibility drops below VFR minima
- c) To mark the next available en-route airport during the flight
- d) To visualize the range limitation from the departure aerodrome

13. What effect is referred to as "adverse yaw"?

- a) Aileron operation results in a yaw to the desired side due to less drag at the down-deflected aileron
- b) Rudder operation results in a rolling moment to the opposite side due to more lift generated by the faster moving wing
- c) Aileron operation results in a yaw to the opposite side due to more drag at the up-deflected aileron
- d) Aileron operation results in a yaw to the opposite side due to more drag at the down-deflected aileron

14. What pressure pattern can be observed at a lift-generating wing profile at positive angle of attack?

- a) Low pressure is created above, higher pressure below the profile
- b) Pressure above remains unchanged, higher pressure is created below the profile
- c) High pressure is created above, lower pressure below the profile
- d) Pressure below remains unchanged, lower pressure is created above the profile

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15. The "swiss cheese model" can be used to explain the...

- a) State of readiness of a pilot
- b) Procedure for an emergency landing
- c) Optimal problem solution
- d) Error chain

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

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

17. (For this question, please use annex PFP-061) According to ICAO, what symbol indicates a group of unlighted obstacles?

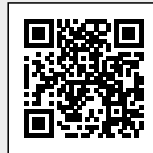
- A
- B
- C
- D

PFP-061

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

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18. The term "balance arm" in the context of a mass and balance calculation defines the...

- a) Distance of a mass from the center of gravity
- b) Point on the longitudinal axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced
- c) Distance from the datum to the center of gravity of a mass
- d) Point through which the force of gravity is said to act on a mass

19. What is the correct way of acknowledging the instruction "Next report PAH"?

- a) Positive
- b) Wilco
- c) Report PAH
- d) Roger

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

- 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

21. The "Certificate of Airworthiness" is issued by the state...

- a) Of the residence of the owner
- b) In which the aircraft is registered.
- c) In which the airworthiness review is done.
- d) In which the aircraft is constructed.

22. Unless the aircraft is equipped and certified accordingly...

- 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

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23. What color has the emergency hood release handle?

- a) Green
- b) Red
- c) Yellow
- d) Blue

24. An aircraft is flying with a true airspeed (TAS) of 180 kt and a headwind component of 25 kt for 2 hours and 25 minutes. The distance flown equals...

- a) 693 NM
- b) 202 NM
- c) 375 NM
- d) 435 NM

25. The saturated adiabatic lapse rate is...

- a) Equal to the dry adiabatic lapse rate
- b) Higher than the dry adiabatic lapse rate
- c) Proportional to the dry adiabatic lapse rate
- d) Lower than the dry adiabatic lapse rate

26. How are two parallel runways designated?

- a) The left runway gets the suffix "L", the right runway remains unchanged
- b) The left runway gets the suffix "L", the right runway "R"
- c) The left runway remains unchanged, the right runway designator is increased by 1
- d) The left runway gets the suffix "-1", the right runway "-2"

27. 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

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28. During final approach, you realize that you missed to extend the gear. How should the landing be conducted?

- a) You land without gear, and carefully touch down with minimum speed
- b) You extend the gear immediately and land as usual
- c) You retract flaps, extend the gear and land as usual
- d) You land without gear with higher than usual speed

29. At stationary glide and the same mass, what is the difference when using a thick airfoil instead of a thinner airfoil?

- a) More drag, same lift
- b) Less drag, less lift
- c) More drag, less lift
- d) Less drag, same lift

30. If surrounded by airflow ($v > 0$), any arbitrarily shaped body produces...

- a) Drag and lift
- b) Drag
- c) Lift without drag
- d) Constant drag at any speed

31. In a co-ordinated turn, how is the relation between the load factor (n) and the stall speed (V_s)?

- a) N is smaller than 1, V_s is greater than in straight and level flight
- b) N is greater than 1, V_s is smaller than in straight and level flight
- c) N is greater than 1, V_s is greater than in straight and level flight
- d) N is smaller than 1, V_s is smaller than in straight and level flight

32. What is the call sign of the surface movement control?

- a) Control
- b) Tower
- c) Earth
- d) Ground

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

- 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

34. What are the primary and the secondary effects of a rudder input to the left?

- a) Primary: yaw to the right Secondary: roll to the left
- b) Primary: yaw to the left Secondary: roll to the left
- c) Primary: yaw to the right Secondary: roll to the right
- d) Primary: yaw to the left Secondary: roll to the right

35. (For this question, please use annex PFP-062) According to ICAO, what symbol indicates a civil airport (not international airport) with paved runway?



PFP-062

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

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36. 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?

- 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

37. Which are the properties of a Lambert conformal chart?

- a) The chart is conformal and an equal-area projection
- b) Great circles are depicted as straight lines and the chart is an equal-area projection
- c) Rhumb lines are depicted as straight lines and the chart is conformal
- d) The chart is conformal and nearly true to scale

38. What landing technique is recommended for landing on a down-hill grass area?

- a) In general up-hill
- b) Diagonal down-hill
- c) With brakes applied on main wheel, no air brakes
- d) Full air brakes, gear retracted and stalled

39. What weather conditions can be expected in high pressure areas during winter?

- a) Calm winds and widespread areas with high fog
- b) Changing weather with passing of frontal lines
- c) Squall lines and thunderstorms
- d) Calm weather and cloud dissipation, few high Cu

40. Which answer is correct concerning stress?

- a) Everybody reacts to stress in the same manner
- b) Stress and its different symptoms are irrelevant for flight safety
- c) Stress can occur if there seems to be no solution for a given problem
- d) Training and experience have no influence on the occurrence of stress

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41. Carbon monoxide poisoning can be caused by...

- a) Alcohol
- b) Unhealthy food
- c) Little sleep
- d) Smoking

42. During a flight at FL 80, the altimeter setting has to be...

- a) Local QFE.
- b) Local QNH.
- c) 1030.25 hPa.
- d) 1013.25 hPa.

43. Electronic devices on board of an aeroplane have influence on the...

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

44. After landing, you realize you lost your pen which might have fallen down in the cockpit of the sailplane. What has to be considered?

- a) Lighter, loose bodies in the fuselage can be considered uncritical
- b) Before next take-off, the cockpit has to be firmly inspected for loose bodies
- c) A flight without a pen at hand is not permitted
- d) Succeeding pilots have to be informed about that

45. Which altitude is displayed on the altimeter when set to a specific QFE?

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

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

- 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

47. What is the correct phrase to begin a blind transmission?

- a) Listen
- b) Blind
- c) Transmitting blind
- d) No reception

48. What impression may be caused when approaching a runway with an upslope?

- a) An undershoot
- b) A landing beside the centerline
- c) An overshoot
- d) A hard landing

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

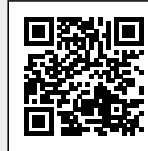
- a) Trim aircraft to "pitch down"
- b) Change pilot seat position
- c) Change incident angle of elevator
- d) Load ballast weight up to minimum load

50. What distance corresponds to one degree difference in latitude along any degree of longitude?

- a) 30 NM
- b) 60 km
- c) 60 NM
- d) 1 NM

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51. Which of the mentioned cockpit instruments is connected to the pitot tube?

- a) Direct-reading compass
- b) Altimeter
- c) Vertical speed indicator
- d) Airspeed indicator

52. The term "flight time" is defined as...

- a) The period from engine start for the purpose of taking off to leaving the aircraft after engine shutdown
- b) The period from the start of the take-off run to the final touchdown when landing
- c) The total time from the first aircraft movement until the moment it finally comes to rest at the end of the flight
- d) The total time from the first take-off until the last landing in conjunction with one or more consecutive flights

53. During approach to the next updraft, the vertical speed indicator reads 3 m/s descent. Within the updraft you expect a mean rate of climb of 2 m/s. According to McCready, how should you adjust the speed during approach of the updraft?

- a) The McCready ring should be set to 2 m/s, the recommended speed can be read at the McCready scale next to the sum of current rate of descent at expected rate of climb (5 m/s)
- b) The McCready ring should be set to 3 m/s, the recommended speed can be read at the McCready scale next to the expected rate of climb (2 m/s)
- c) The McCready ring should be set to 2 m/s, the recommended speed can be read at the McCready scale next to the current rate of descent (3 m/s)
- d) Outside of thermal cells, the McCready ring should be set to 0 m/s, the recommended speed can be read at the McCready scale next to the current rate of descent (3 m/s)

54. A distance of 7.5 cm on an aeronautical chart represents a distance of 60.745 NM in reality. What is the chart scale?

- a) 1 : 500000
- b) 1 : 1500000
- c) 1 : 1000000
- d) 1 : 150000

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

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

56. Given: True course from A to B: 283°. Ground distance: 75 NM. TAS: 105 kt. Headwind component: 12 kt. Estimated time of departure (ETD): 1242 UTC. The estimated time of arrival (ETA) is...

- a) 1330 UTC
- b) 1356 UTC
- c) 1430 UTC
- d) 1320 UTC

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

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

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

- 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

59. What is the difference in latitude between A (12°53'30"N) and B (07°34'30"S)?

- a) 05,19°
- b) 20,28°
- c) 05°19'00"
- d) 20°28'00"

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60. During slope soaring you have the hill to your left side, another glider is approaching from the opposite side at the same altitude. How do you react?

- a) You divert to the right
- b) You expect the opposite glider to divert
- c) You divert to the right and expect the opposite glider to do the same
- d) You pull on the elevator and divert upward

61. Which area is suitable for an off-field landing?

- a) Harvested cornfield
- b) Glade with long dry grass
- c) Plowed field
- d) Sports area in a village

62. Primary fuselage structures of wood or metal planes are usually made up by what components?

- a) Covers, stringers and forming parts
- b) Frames and stringers
- c) Girders, ribs and stringers
- d) Ribs, frames and covers

63. With regard to the forces acting, how can stationary gliding be described?

- a) The sum of air forces acts along the direction of air flow
- b) The sum of the air forces acts along with the lift force
- c) The lift force compensates the drag force
- d) The sum of air forces compensates the gravity force

64. From which altitude on does the body usually react to the decreasing atmospheric pressure?

- a) 2000 feet
- b) 10000 feet
- c) 12000 feet
- d) 7000 feet

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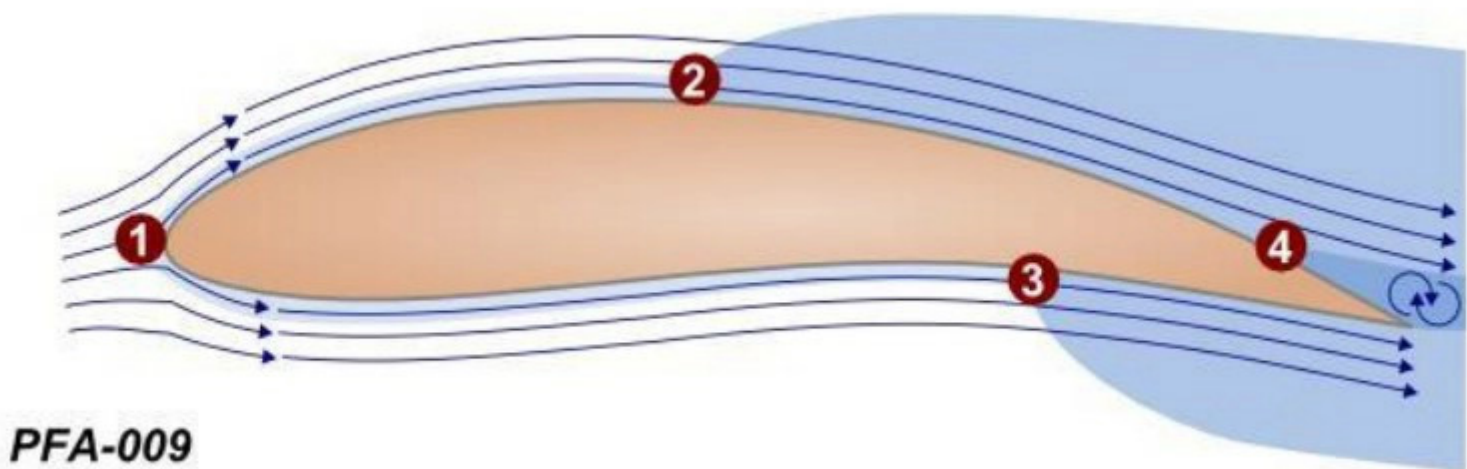


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65. What is the mean height of the tropopause according to ISA (ICAO Standard Atmosphere)?

- a) 11000 ft
- b) 11000 m
- c) 18000 ft
- d) 36000 m

66. Which point on the aerofoil is represented by number 1? See figure (PFA-009)



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

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

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

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68. The trim is used to...

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

69. Assume two arbitrary points A and B on the same parallel of latitude, but not on the equator. Point A is located on 010°E and point B on 020°E. The rhumb line distance between A and B is always...

- a) Less than 300 NM.
- b) Less than 600 NM.
- c) More than 600 NM.
- d) More than 300 NM.

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

- 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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Response Scheme

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

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