

Exam simulation

SPL - Sailplane Pilot License - Meteorology



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STUDENT NAME:

DATE AND TIME:

01. What visual flight conditions can be expected after the passage of a cold front?

- a) Good visibility, formation of cumulus clouds with showers of rain or snow
- b) Poor visibility, formation of overcast or ground-covering stratus clouds, snow
- c) Scattered cloud layers, visibility more than 5 km, formation of shallow cumulus clouds
- d) Medium visibility with lowering cloud bases, onset of prolonged precipitation

02. Which abbreviation is used for the term "abeam"?

- a) ABB
- b) ABM
- c) ABE
- d) ABA

03. Clouds in high layers are referred to as...

- a) Cirro-
- b) Strato-
- c) Nimbo-
- d) Alto-

04. What wind conditions can be expected in areas showing large distances between isobars?

- a) Strong prevailing westerly winds with rapid veering
- b) Strong prevailing easterly winds with rapid backing
- c) Formation of local wind systems with strong prevailing westerly winds
- d) Variable winds, formation of local wind systems

05. 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

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06. The aerodynamic rudder balance...

- a) Reduces the control surfaces
- b) Delays the stall
- c) Reduces the control stick forces
- d) Improves the rudder effectiveness

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

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

08. Light turbulence always has to be expected...

- a) Above cumulus clouds due to thermal convection.
- b) Below stratiform clouds in medium layers.
- c) When entering inversions.
- d) Below cumulus clouds due to thermal convection.

09. 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

10. 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.



11. What information is provided in the general part (GEN) of the AIP?

- a) Table of content, classification of airfields with corresponding maps, approach charts, taxi charts, restricted and dangerous airspaces
- b) Access restrictions for airfields, passenger controls, requirements for pilots, licence samples and validity periods
- c) Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees
- d) Warnings for aviation, ATS airspaces and routes, restricted and dangerous airspaces

12. What engine design at a Touring Motor Glider (TMG) results in least drag?

- a) Engine and propeller mounted fixed on the fuselage
- b) Engine and propeller mounted stowable on the fuselage
- c) Engine and propeller mounted fixed at the aircraft's nose
- d) Engine and propeller mounted fixed at the horizontal stabilizer

13. Distress messages are messages...

- a) Concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight
- b) Concerning the operation or maintenance of facilities which are important for the safety and regularity of flight operations
- c) Concerning aircraft and their passengers which face a grave and imminent threat and require assistance
- d) Sent by a pilot or an aircraft operating agency which have an imminent meaning for aircraft in flight

14. Information about pressure patterns and frontal situation can be found in which chart?

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

15. In what case is visibility transmitted in meters?

- a) Up to 5 km
- b) Greater than 10 km
- c) Greater than 5 km
- d) Up to 10 km

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16. 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?

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

17. What is the correct term for an involuntary and stereotypical reaction of an organism to the stimulation of a receptor?

- a) Reduction
- b) Coherence
- c) Virulence
- d) Reflex

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

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

19. Visual illusions are mostly caused by...

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

20. The angle of descent is defined as...

- a) The ratio between the change in height and the horizontal distance travelled within the same time, expressed in percent [%]
- b) The angle between a horizontal plane and the actual flight path, expressed in degrees [°]
- c) The angle between a horizontal plane and the actual flight path, expressed in percent [%]
- d) The ratio between the change in height and the horizontal distance travelled within the same time, expressed in degrees [°]

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21. What cloud type can typically be observed across widespread high pressure areas during summer?

- a) Overcast low stratus
- b) Scattered Cu clouds
- c) Overcast Ns clouds
- d) Squall lines and thunderstorms

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

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

23. The dry adiabatic lapse rate has a value of...

- a) $0,65^{\circ}$ C / 100 m.
- b) $1,0^{\circ}$ C / 100 m.
- c) 2° / 1000 ft.
- d) $0,6^{\circ}$ C / 100 m.

24. The load factor "n" describes the relationship between...

- a) Weight and thrust
- b) Drag and lift
- c) Lift and weight
- d) Thrust and drag

25. During a right turn, the yaw string is drawn to the left from centre position. By what rudder input can the string be centred again?

- 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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26. How can dangerous situations be prevented when the sailplane approaches close to a pattern altitude during a cross-country flight?

- a) Try to reach cumulus clouds visible at the far horizon and use their thermal updrafts
- b) Despite the planned flight, decide for an off-field landing
- c) Maintain radio communication up to full stop after off-field landing
- d) Search for thermal updrafts on the lee side of a selected landing field

27. Which factor shortens landing distance?

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

28. The term "static pressure" is defined as pressure...

- a) Inside the aeroplane cabin
- b) Of undisturbed airflow
- c) Resulting from orderly flow of air particles
- d) Sensed by the pitot tube

29. Which statement is correct with regard to the short-term memory?

- a) It can store 7 (± 2) items for 10 to 20 seconds
- b) It can store 5 (± 2) items for 1 to 2 minutes
- c) It can store 10 (± 5) items for 30 to 60 seconds
- d) It can store 3 (± 1) items for 5 to 10 seconds

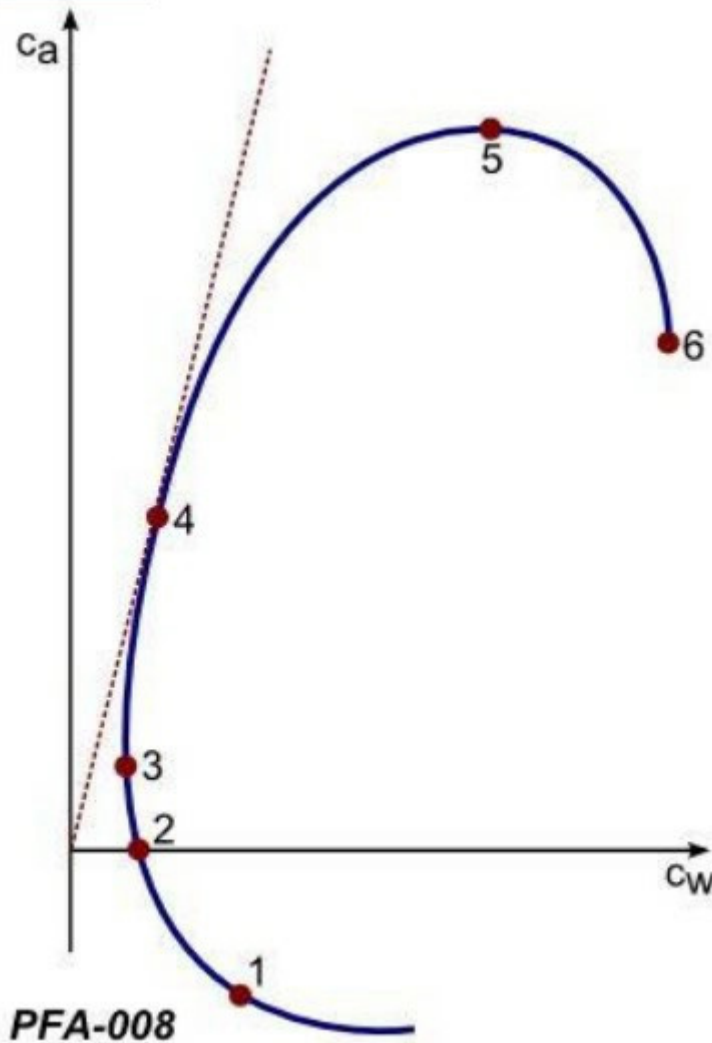
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30. Point number 5 in the figure indicates which flight state? See figure (PFA-008)



- a) Slow flight
- b) Best gliding angle
- c) Inverted flight
- d) Stall

31. Off-field landing may be prone to accident when...

- a) The approach is conducted using distinct approach segments
- b) The decision is made above minimum safe altitude
- c) The approach is conducted onto a harvested corn field
- d) The decision to land off-field is made too late

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32. How is the balance of forces affected during a turn?

- a) A lower lift force compensates for a lower net force as compared to level flight
- b) Lift force must be increased to compensate for the sum of centrifugal and gravitational force
- c) The horizontal component of the lift force during a turn is the centrifugal force
- d) The net force results from superposition of gravity and centripetal forces

33. In what situation is it appropriate to set the transponder code 7600?

- a) Hijacking
- b) Emergency
- c) Flight into clouds
- d) Loss of radio

34. Given: True course from A to B: 352°. Ground distance: 100 NM. GS: 107 kt. Estimated time of departure (ETD): 0933 UTC. The estimated time of arrival (ETA) is...

- a) 1045 UTC
- b) 1029 UTC
- c) 1129 UTC
- d) 1146 UTC

35. Wings level after a longer period of turning can lead to the impression of...

- a) Starting a climb
- b) Steady turning in the same direction as before
- c) Turning into the opposite direction.
- d) Starting a descent

36. A sailplane is operated with additional water ballast. How do best gliding angle and speed of best glide change, when compared to flying without water ballast?

- a) Best gliding angle decreases, best glide speed decreases
- b) Best gliding angle remains unchanged, best glide speed increases
- c) Best gliding angle remains increases, best glide speed increases
- d) Best gliding angle remains unchanged, best glide speed decreases

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37. 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

38. Given: True course from A to B: 250°. Ground distance: 210 NM. TAS: 130 kt. Headwind component: 15 kt. Estimated time of departure (ETD): 0915 UTC. The estimated time of arrival (ETA) is...

- a) 1115 UTC
- b) 1005 UTC
- c) 1105 UTC
- d) 1052 UTC

39. Times are transmitted as...

- a) Local time.
- b) Time zone time.
- c) UTC.
- d) Standard time.

40. Which are the properties of a Mercator chart?

- a) The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- b) The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- c) The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- d) The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines

41. 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?

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

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42. Which of the following factors affects the reception of VHF transmissions?

- a) Height of ionosphere
- b) Altitude
- c) Twilight error
- d) Shoreline effect

43. The elevator moves an aeroplane around the...

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

44. How often shall a blind transmission be made?

- a) Two times
- b) Four times
- c) Three times
- d) One time

45. Which section of the flight manual describes the basic empty mass of an aircraft?

- a) Limitations
- b) Normal procedures
- c) Weight and balance
- d) Performance

46. What has to be checked before any change in direction during glide?

- a) Check for turn to be flown coordinated
- b) Check for thermal clouds
- c) Check for loose object secured
- d) Check for free airspace in desired direction

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47. During thermal soaring, another sailplane is following close by. What should be done to avoid a collision?

- a) You reduce speed to let the other sailplane fly by
- b) You reduce bank to achieve a larger turn radius
- c) You increase bank to be better seen from the other sailplane
- d) You increase speed to achieve a position opposite in the circle

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

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

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

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

50. The right aileron deflects upwards, the left downwards. How does the aircraft react?

- a) Rolling to the left, no yawing
- b) Rolling to the right, yawing to the left
- c) Rolling to the left, yawing to the right
- d) Rolling to the right, yawing to the right

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

- 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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52. The movement of air flowing apart is called...

- a) Convergence.
- b) Concordence.
- c) Subsidence.
- d) Divergence.

53. During a cross-country flight, you approach a downwind turning point. The point should be taken...

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

54. The indication of a magnetic compass deviates from magnetic north direction due to what errors?

- a) Inclination and declination of the earth's magnetic field
- b) Gravity and magnetism
- c) Deviation, turning and acceleration errors
- d) Variation, turning and acceleration errors

55. What distance can be covered during a glide in a glider plane with glide ratio 1/30 from a height of 1500 m? (Neglect wind and thermal effects)

- a) 30 km
- b) 45 NM
- c) 45 km
- d) 81 NM

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56. What kind of information should be included in an urgency message?

- a) Nature of problem or observation, important information for support, departure aerodrome, information about position, heading and altitude
- b) Intended routing, important information for support, intentions of the pilot, information about position, departure aerodrome, heading and altitude
- c) Intended routing, important information for support, intentions of the pilot, departure aerodrome, destination aerodrome, heading and altitude
- d) Nature of problem or observation, important information for support, intentions of the pilot, information about position, heading and altitude

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

- 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

58. Where does the inclination reach its lowest value?

- a) At the geographic equator
- b) At the magnetic equator
- c) At the geographic poles
- d) At the magnetic poles

59. The altimeter has to be set to what value in order to show zero on ground?

- a) QTE
- b) QFE
- c) QNE
- d) QNH

60. What information is broadcasted on a VOLMET frequency?

- a) Current information
- b) Navigational information
- c) Meteorological information
- d) NOTAMS

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61. What is the correct way of establishing radio communication between D-EAZF and Dusseldorf Tower?

- a) Dusseldorf Tower over
- b) Dusseldorf Tower D-EAZF
- c) D-EAZF Dusseldorf Tower
- d) Tower from D-EAZF

62. During flight you have to solve a problem, how do you proceed?

- a) There is no time for solving problems during flight
- b) Solve problem immediately, otherwise refer to the operating handbook
- c) Contact other pilot via radio for help, keep flying
- d) Primarily fly the aeroplane and keep it stable, then attend to the problem and keep flying the aeroplane

63. What is the gas composition of "air"?

- a) Oxygen 78 % Water vapour 21 % Nitrogen 1 %
- b) Oxygen 21 % Nitrogen 78 % Noble gases / carbon dioxide 1 %
- c) Oxygen 21 % Water vapour 78 % Noble gases / carbon dioxide 1 %
- d) Nitrogen 21 % Oxygen 78 % Noble gases / carbon dioxide 1 %

64. A glider pilot has to conduct an off-field landing in a mountainous region. The only available landing site is highly inclined. How should the landing be conducted?

- a) Approach with increased speed, quick flare to follow the inclined ground
- b) Approach down the ridge with increased speed, push according to ground level during landing
- c) According to prevailing wind, approach and land parallel to the ridge with headwind
- d) Approach with minimum speed, careful flare when reaching the landing site

65. What does a cloud coverage of "SCT" mean in a METAR weather report?

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

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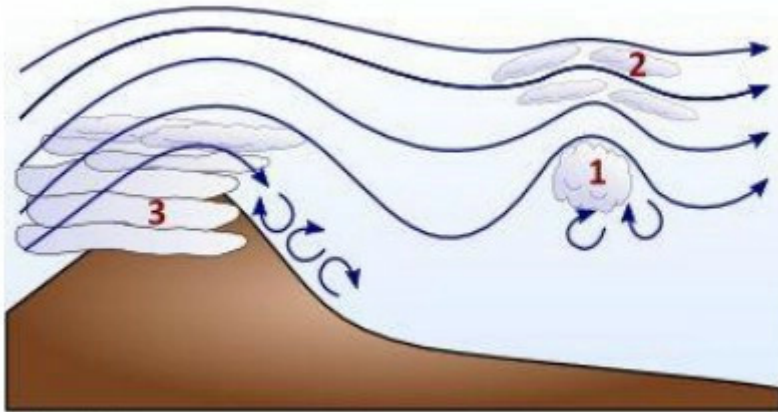


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66. Despite several attempts, the landing gear can be extended, but not locked. How should the landing be conducted?

- a) Keep gear unlocked and perform normal landing
- b) Keep a firm grip on gear handle during normal landing
- c) Retract landing gear and perform belly landing with minimum speed
- d) Retract gear and perform belly landing with increased speed

67. 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

68. Given: True course: 120°. TAS: 120 kt. Wind: 150°/12 kt. The WCA equals...

- a) 3° to the right
- b) 6° to the right
- c) 6° to the left
- d) 3° to the left

69. What is the meaning of "DETRESFA"?

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

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

- 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

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Response Scheme

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

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