

Exam simulation

SPL - Sailplane Pilot License - Human Performance and limitations



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STUDENT NAME:

DATE AND TIME:

01. Two aircraft of the same type, same grossweight and same configuration fly at different airspeeds. Which aircraft will cause more severe wake turbulence?

- a) The aircraft flying at lower altitude
- b) The aircraft flying at higher speed
- c) The aircraft flying at higher altitude
- d) The aircraft flying at slower speed

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

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

03. Lower-than-standard temperature may lead to...

- a) An altitude indication which is too high
- b) An altitude indication which is too low
- c) A correct altitude indication as long as the altimeter subscale is set to correct for non-standard temperature
- d) A blockage of the Pitot tube by ice, freezing the altimeter indication to its present value

04. What is necessary for the determination of speed (IAS) by the airspeed indicator?

- a) The difference between the total pressure and the dynamic pressure
- b) The difference between the dynamic pressure and the static pressure
- c) The difference between the standard pressure and the total pressure
- d) The difference between the total pressure and the static pressure

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05. The angle between the true course and the true heading is called...

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

06. After reaching what height during winch launch the maximum pitch position can be taken?

- a) From approx. 50 m while maintaining a safe speed for winch launch
- b) From 15 m while reaching a speed of at least 90 km/h
- c) From 150 m or higher, when in case of cable break landing straight ahead is no longer possible
- d) Shortly after lift-off, provided a sufficiently strong headwind

07. Given: Ground speed (GS): 160 kt. True course (TC): 177°. Wind vector (W/WS): 140°/20 kt. The true heading (TH) equals...

- a) 180°
- b) 173°
- c) 169°
- d) 184°

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

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

09. 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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10. 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?

- 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

11. What does a readability of 5 indicate?

- a) The transmission is readable now and then
- b) The transmission is readable but with difficulty
- c) The transmission is unreadable
- d) The transmission is perfectly readable

12. What is the minimum flight visibility in airspace "C" below FL 100 for an aircraft operating under VFR?

- a) 1.5 km
- b) 8 km
- c) 5 km
- d) 10 km

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13. What is the distance from VOR Brünkendorf (BKD) (53°02'N, 011°33'E) to Pritzwalk (EDBU) (53°11'N, 12°11'E)?



- a) 24 NM
- b) 42 NM
- c) 24 km
- d) 42 km

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14. During approach, tower provides the following information: "Wind 15 knots, gusts 25 knots". How should the landing be performed?

- a) Approach with minimum speed, correct changes in attitude with careful rudder inputs
- b) Approach with normal speed, maintain speed using spoiler flaps
- c) Approach with increased speed, correct changes in attitude with firm rudder inputs
- d) Approach with increased speed, avoid usage of spoiler flaps

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

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

16. What is the correct way of using the aircraft call sign at first contact?

- a) Using the last two characters only
- b) Using all characters
- c) Using the first three characters only
- d) Using the first two characters only

17. What is indicated by a pattern of longitudinal stripes of uniform dimensions disposed symmetrically about the centreline of a runway?

- a) At this point the glide path of an ILS hits the runway
- b) Do not touch down before them
- c) Do not touch down behind them
- d) A ground roll could be started from this position

18. Which constructive feature has the purpose to reduce steering forces?

- a) T-tail
- b) Differential aileron deflection
- c) Vortex generators
- d) Aerodynamic rudder balance

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19. The validity of a medical examination certificate class 2 for a 62 years old pilot is...

- a) 12 Months
- b) 48 Months
- c) 24 Months
- d) 60 Months

20. Which factor can lead to human error?

- 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

21. Moderate to severe turbulence has to be expected...

- 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).

22. Being intercepted by a military aircraft at daytime, what is the meaning of the following signal: A sudden heading change of 90 degrees or more and a pull-up of the aircraft without crossing the track of the intercepted aircraft?

- a) Follow me, i will bring you to the next suitable airfield
- b) You may continue your flight
- c) Prepare for a safety landing, you have entered a prohibited area
- d) You are entering a restricted area, leave the airspace immediately

23. A sailplane is about to pitch down due to stall. What rudder input can prevent nose-dive and spin?

- a) Ailerons neutral, rudder strongly kicked to lower wing
- b) Release elevator, rudder opposite to lower wing
- c) Keep aeroplane in level flight using rudder pedals
- d) Slightly pull the elevator, ailerons opposite to lower wing

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24. How is referred to a tubular steel construction with a non self-supporting skin?

- a) Grid construction
- b) Honeycomb structure
- c) Monocoque construction
- d) Semi-monocoque construction

25. What is the meaning of the phrase "Correction"?

- 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...

26. A risk factor for decompression sickness is...

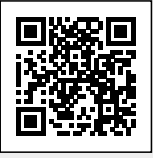
- a) Sports
- b) 100 % oxygen after decompression
- c) Scuba diving prior to flight.
- d) Smoking

27. 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

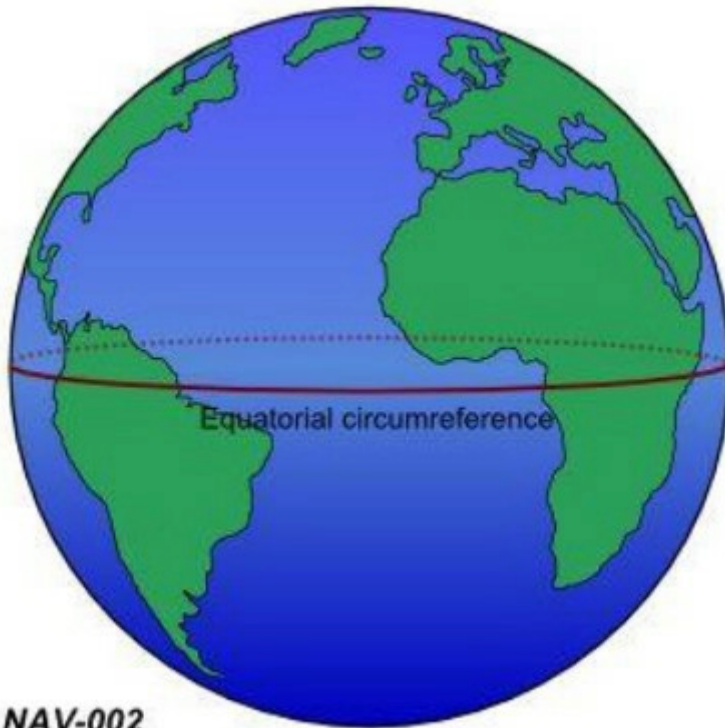
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28. The circumference of the Earth at the equator is approximately... See figure (NAV-002)



- a) 10800 km
- b) 12800 km
- c) 21600 NM
- d) 40000 NM

29. A pilot can contact FIS (flight information service)...

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

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

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

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31. 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

32. What has to be considered when entering an RMZ?

- a) To obtain a clearance to enter this area
- b) To permanently monitor the radio and if possible to establish radio contact
- c) To obtain a clearance from the local aviation authority
- d) The transponder has to be switched on Mode C and squawk 7000

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

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

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

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

35. The laminar boundary layer on the aerofoil is located between...

- a) The stagnation point and the centre of pressure
- b) The stagnation point and the transition point
- c) The transition point and the separation point
- d) The transition point and the centre of pressure

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36. 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

37. 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

38. What is the minimum flight visibility in airspace "C" at and above FL 100 for an aircraft operating under VFR?

- a) 1.5 km
- b) 10 km
- c) 5 km
- d) 8 km

39. 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

40. 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

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41. The drag coefficient...

- a) Is proportional to the lift coefficient
- b) Increases with increasing airspeed
- c) May range from zero to an infinite positive value
- d) Cannot be lower than a non-negative, minimal value

42. Deflecting the rudder to the left causes...

- a) Pitching of the aircraft to the left
- b) Yawing of the aircraft to the left
- c) Pitching of the aircraft to the right
- d) Yawing of the aircraft to the right

43. 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.

44. Given: True course: 270°. TAS: 100 kt. Wind: 090°/25 kt. Distance: 100 NM. The flight time equals...

- a) 48 Min
- b) 37 Min
- c) 84 Min
- d) 62 Min

45. What is the primary purpose of an aircraft accident investigation?

- a) To identify the reasons and work out safety recommendations
- b) To clarify questions of liability within the meaning of compensation for passengers
- c) To work for the public prosecutor and help to follow-up flight accidents
- d) To determine the guilty party and draw legal consequences

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46. For a short flight from A to B the pilot extracts the following information from an aeronautical chart: True course: 245°. Magnetic variation: 7° W The magnetic course (MC) equals...

- a) 238°
- b) 245°
- c) 252°
- d) 007°

47. 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

48. What does the dynamic pressure depend directly on?

- a) Lift- and drag coefficient
- b) Air density and airflow speed squared
- c) Air density and lift coefficient
- d) Air pressure and air temperature

49. A movement around the longitudinal axis is primarily initiated by the...

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

50. The distance between the centre of gravity and the datum is called...

- a) Lever
- b) Torque
- c) Span width
- d) Balance arm

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51. Distress messages contain...

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

52. Which dangerous attitudes are often combined?

- a) Invulnerability and self-abandonment
- b) Self-abandonment and macho
- c) Macho and invulnerability
- d) Impulsivity and carefulness

53. 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

54. What types of boundary layers can be found on an aerofoil?

- a) Laminar boundary layer along the complete upper surface with non-separated airflow
- b) Turbulent layer at the leading wing areas, laminar boundary layer at the trailing areas
- c) Turbulent boundary layer along the complete upper surface with separated airflow
- d) Laminar layer at the leading wing areas, turbulent boundary layer at the trailing areas

55. What is the meaning of the phrase "Roger"?

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

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56. In case of cable break during airtow, a longer part of the cable remains attached to the glider plane. What action should be taken by the glider pilot?

- a) Decouple immediately and proceed with coupling unlatched
- b) Conduct normal approach, release cable immediately after ground contact
- c) Perform low approach and request information about cable length by airfield controller, decouple if necessary
- d) When in safe height, drop cable overhead empty terrain or overhead airfield

57. The balance arm is the horizontal distance between...

- a) The C.G. of a mass and the rear C.G. limit
- b) The front C.G. limit and the datum line
- c) The front C.G. limit and the rear C.G. limit
- d) The C.G. of a mass and the datum line

58. Which type of cloud is associated with prolonged rain?

- a) Altocumulus
- b) Cumulonimbus
- c) Nimbostratus
- d) Cirrostratus

59. When do you expect wind shear?

- a) During an inversion
- b) When passing a warm front
- c) During a summer day with calm winds
- d) In calm wind in cold weather

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

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

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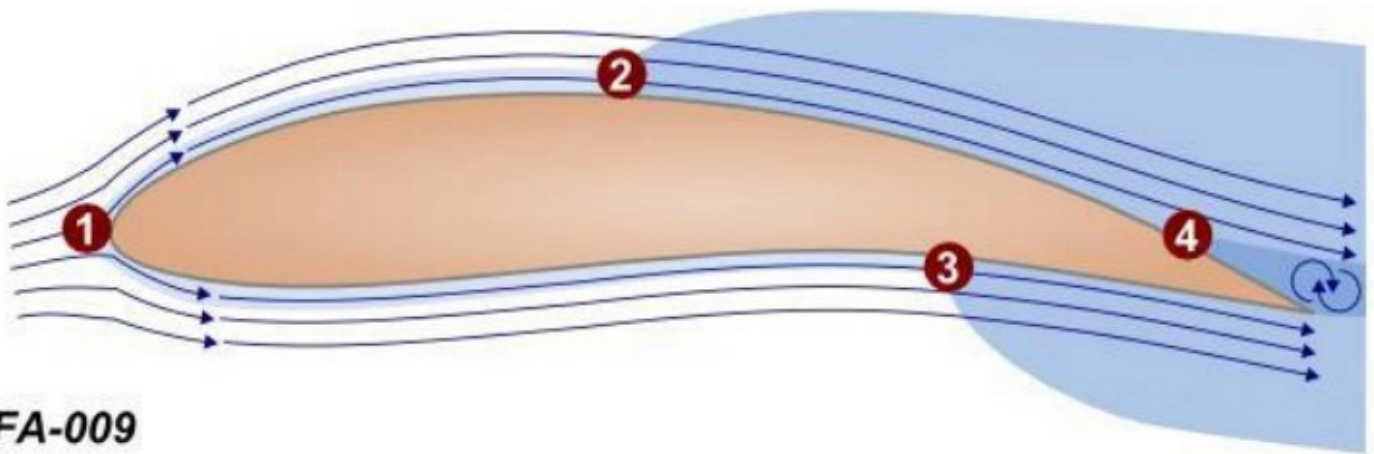


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61. The term "inclination" is defined as...

- a) Deviation induced by electrical fields
- b) Angle between magnetic and true north
- c) Angle between earth's magnetic field lines and horizontal plane
- d) Angle between aeroplane's longitudinal axis and true north

62. Which point on the aerofoil is represented by number 4? See figure (PFA-009)



PFA-009

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

63. What engines are commonly used with Touring Motor Gliders (TMG)?

- a) 2 plate Wankel
- b) 2 Cylinder Diesel
- c) 4 Cylinder 2 stroke
- d) 4-cylinder 4-stroke

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64. 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.

65. What does a readability of 3 indicate?

- a) The transmission is perfectly readable
- b) The transmission is readable now and then
- c) The transmission is unreadable
- d) The transmission is readable but with difficulty

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

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

67. When flying into heavy snowfall, most dangerous will be the...

- a) Sudden blockage of pitot-static system
- b) Sudden increase of airframe icing
- c) Sudden increase in aeroplane mass
- d) Sudden loss of visibility

68. Which weather phenomenon is typically associated with wind shear?

- a) Fog
- b) Stable high pressure areas
- c) Invernal warm front
- d) Thunderstorms

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

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

70. What weather conditions may be expected during conditionally unstable conditions?

- a) Towering cumulus, isolated showers of rain or thunderstorms
- b) Layered clouds up to high levels, prolonged rain or snow
- c) Sky clear of clouds, sunshine, low winds
- d) Shallow cumulus clouds with base at medium levels

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Response Scheme

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

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

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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: _____		