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STUDENT NAME:	DATE AND TIME:

#### 01. UTC is...

- a) A zonal time
- b) Local mean time at a specific point on Earth.
- c) An obligatory time used in aviation.
- d) A local time in Central Europe.

### 02. What does a cloud coverage of "FEW" mean in a METAR weather report?

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

#### 03. 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"

### 04. 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, therafter decouple the cable
- c) Carefully extend spoiler flaps, steer glider back into normal position
- d) Push strongly to bring glider back to normal position

### 05. The term "center of gravity" is defined as...

- 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.

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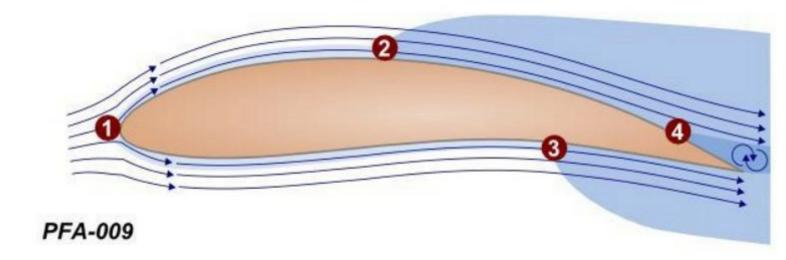
### 06. An energy-compensated vertical speed inicator (VSI) shows during stationary glide the vertical speed...

- 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.

#### 07. What is the function of the static rudder balance?

- a) To prevent control surface flutter
- b) To trim the controls almost without any force
- c) To increase the control stick forces
- d) To limit the control stick forces

### 08. Which point on the aerofoil is represented by number 4? See figure (PFA-009) Siehe Anlage 2



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

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### 09. 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...

### 10. The distance between two airports is 220 NM. On an aeronautical navigation chart the pilot measures 40.7 cm for this distance. The chart scale is...

a) 1:500000b) 1:1000000.

c) 1: 250000.d) 1: 2000000.

#### 11. 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 airplane's longitudinal axis and true north.

### 12. 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.

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

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

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### 14. 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.

### 15. 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.

### 16. What process results in the formation of "advection fog"?

- a) Cold, moist air is being moved across warm ground areas
- b) Cold, moist air mixes with warm, moist air
- c) Prolonged radiation during nights clear of clouds
- d) Warm, moist air is moved across cold ground areas

### 17. What is the function of the blood platelets (thrombocytes)?

- a) Oxygen transport
- b) Blood sugar regulation
- c) Immune defense
- d) Blood coagulation

#### 18. Which area could be crossed with certain restrictions?

- a) No-fly zone
- b) Restricted area
- c) Prohibited area
- d) Dangerous area

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### 19. 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

### 20. 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

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

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

### 22. What color has the emergency hood release handle?

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

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

- 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

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### 24. Air traffic control service is conducted by which services?

- a) ALR (alerting service) SAR (search and rescue service) TWR (aerodrome control service)
- b) FIS (flight information service) AIS (aeronautical information service) AFS (aeronautical fixed telecommunication service)
- c) APP (approach control service) ACC (area control service) FIS (flight information service)
- d) TWR (aerodrome control service) APP (approach control service) ACC (area control service)

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

- 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

### 26. Exceeding the maximum allowed aircraft mass is...

- a) Compensated by the pilot's control inputs.
- b) Only relevant if the excess is more than 10 %.
- c) Exceptionally permissible to avoid delays
- d) Not permissible and essentially dangerous

### 27. 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.

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

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

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

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

### 30. What is the correct way of acknowledging "You are now entering airspace Delta"?

- a) Roger
- b) Airspace Delta
- c) Wilco
- d) Entering

### 31. 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

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

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

### 33. 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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### 34. 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.

### 35. If there is any doubt about ambiguity, a time of 1620 is to be transmitted as...

- a) Sixteen twenty
- b) Two zero.
- c) One six two zero.
- d) One tousand six hundred two zero

### 36. 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

### 37. 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 personell 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.

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

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

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### 39. 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

### 40. The term 'civil twilight' is defined as...

- a) The period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the apparent horizon.
- b) The period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the true horizon.
- c) The period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the true horizon.
- d) The period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the apparent horizon.

### 41. The center of gravity (CG) defines...

- a) The product of mass and balance arm
- b) The point on the longitudinal axis or its extension from which the centers of gravity of all masses are referenced.
- c) The point on the longitudinal axis or its extension from which the centers of gravity of all masses are referenced.
- d) The point through which the force of gravity is said to act on a mass.

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

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

#### 43. What does the abbreviation "H24" stand for?

- a) No specific opening times
- b) 24 h service
- c) Sunrise to sunset
- d) Sunset to sunrise

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### 44. What clouds and weather can typically be observed during the passage of a cold front?

- a) Wind becoming calm, dissipation of clouds and warming during summer; formation of extended high fog layers during winter
- b) Cirrus, thickening altostratus and altocumulus clouds, lowering cloud base with rain, nimbostratus
- c) In coastal areas during daytime wind from the coast and forming of cumulus clouds, dissipation of clouds during evening and night
- d) Strongly developed cumulus clouds (Cb) with showers of rain and thunderstorms, gusting wind followed by cumulus clouds with isolated showers of rain

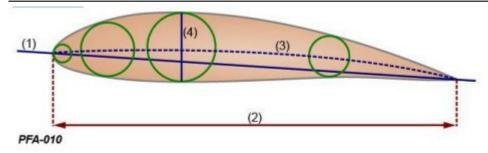
### 45. Which type of cloud is associated with prolonged rain?

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

### 46. 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

### 47. Number 2 in the drawing corresponds to the... See figure (PFA-010) Siehe Anlage 1



- a) Profile thickness.
- b) Chord line.
- c) Chord line.
- d) Angle of attack.

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

a) Technical failure.	
b) Meteorological influences.	

- c) Human failure.
- d) Geographical influences.

49. 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	··	. ,	

- a) .+ 11°
- b) . 9°
- c) .- 7°
- d) .+ 5°

### 50. An aircraft is flying at aFL 75 with an outside air temperature (OAT) of -9°C. The QNH altitude is 6500 ft. The true altitude equals...

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

### 51. Which of the following messages has the highest priority?

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

### 52. When landing with tailwind, the pilot has to...

- a) Approach with normal speed and shallow angle.
- b) Compensate tailwind by sideslip.
- c) Increase approach speed.
- d) Land with gear retracted to shorten ground roll distance

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### 53. Rudder deflections result in a turn of the aeroplane around the...

b) Vertical axis.	
b) Vertical axis.	
c) Lateral axis	
d) Longitudinal axis.	
54. A sailplane is operated with additional water ballast. How do best gliding angle and speed of best gli when compared to flying without water ballast?	ide change
a) Best gliding angle descreases, 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.	
55. Weather and operational information about the destination aerodrome can be obtained during the flig	ght by
a) PIREP	ght by
a) PIREP b) SIGMET	ght by
a) PIREP	ght by
a) PIREP b) SIGMET c) ATIS.	ght by
a) PIREP b) SIGMET c) ATIS. d) VOLMET.	ght by
a) PIREP b) SIGMET c) ATIS. d) VOLMET.  56. The validity of a medical examination certificate class 2 for a 62 years old pilot is	ght by
a) PIREP b) SIGMET c) ATIS. d) VOLMET.  56. The validity of a medical examination certificate class 2 for a 62 years old pilot is a) 12 Months.	ght by
a) PIREP b) SIGMET c) ATIS. d) VOLMET.  56. The validity of a medical examination certificate class 2 for a 62 years old pilot is a) 12 Months. b) 48 Months.	ght by

### 57. 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

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

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

### 59. 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...

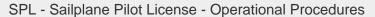
- a) That the aircraft does not exceed the maximum permissible airspeed during a descent
- b) Both stability and controllability of the aircraft.
- c) That the aircraft does not tip over on its tail while it is being loaded.
- d) That the aircraft does not stall.

#### 60. 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 distance travelled within the same time, expressed in degrees [°].

#### 61. What landing technique is recommended for landing on a down-hill gras 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





62. (For this question, please use annex PFP-062) According ICAO, what symbol indicates a civil airport (not international airport) with paved runway? (2,00 P.) Siehe Anlage 5













D



PFP-062

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

### 63. What is the percentage of nitrogen in the atmosphere?

- a) 21 %
- b) 78 %
- c) 0.1 %
- d) 1 %

### 64. What does the abbreviation "FIS" stand for?

- a) Flight information service
- b) Flashing information system
- c) Flight information system
- d) Flashing information service

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### 65. 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

### 66. What weather conditions can be expected in high pressure areas during summer?

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

### 67. Which of the following landing areas is most suitable for an off-field landing?

- a) A field with ripe waving crops
- b) A meadow without livestock
- c) A light brown field with short crops
- d) A lake with an undisturbed surface

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

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

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

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

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### 70. 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

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# Response Scheme Compare your answers with the following diagram and mark your score!

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

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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:		