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STUDENT NAME:	DATE AND TIME:

01. Which are the official basic units for horizontal distances used in aeronautical navigation and their abbreviations?

- a) Feet (ft), inches (in)
- b) Yards (yd), meters (m)
- c) Nautical miles (NM), kilometers (km)
- d) Land miles (SM), sea miles (NM)

02. The maximum number of passengers can be found ...

- a) In the certicate of registration.
- b) In the operating handbook.
- c) In the Flight Log book
- d) In the airworthiness certificate.

03. 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) 1:500000b) 1:1500000c) 1:1000000d) 1:150000

04. A flight level is a ...

- a) True altitude
- b) Density altitude.
- c) Pressure altitude.
- d) Altitude above ground.

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05. What must be considered for cross-border flights?

- a) Transmission of hazard reports
- b) Approved exceptions
- c) Regular location messages
- d) Requires flight plans

06. The burst of a hydrogen pressure line may result in what risk?

- a) The risk of hydrogen collecting in the basket and causing breath shortness.
- b) The risk of hydrogen self-igniting and burning with a bright flame.
- c) The risk of hydrogen dissipating to the atmosphere and poisening the air
- d) The risk of hydrogen self-igniting and burning with invisible flame.

07. A flight is called a "visual flight", if the...

- a) Flight is conducted in visual meteorological conditions.
- b) Visibility in flight is more than 8 km
- c) Flight is conducted under visual flight rules.
- d) Visibility in flight is more than 5 km.

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

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

09. Visual illusions are mostly caused by...

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

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

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

11. What does a readability of 2 indicate?

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

12. Given: TC: 183°; WCA: +011°; MH: 198°; CH: 200° What are TH and VAR? (2,00 P.)

a) TH: 172°. VAR: 004° Eb) TH: 194°. VAR: 004° Ec) TH: 172°. VAR: 004° Wd) TH: 194°. VAR: 004° W

13. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125?

- a) 5000 m
- b) 3000 m
- c) 8000 m
- d) 1500 m

14. During a balloon ride, visibility continiously becomes poorer, also cloud base decreases in direction of the current track. How should the balloon pilot react to this situation?

- a) Continue ride in ramaining altitude
- b) Use next best chance for landing
- c) Use GPS or radio navigation to continue ride in clouds
- d) Break through the clouds and continue above clouds

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15. How can wind speed and wind direction be derived from surface weather charts?

- a) By annotations from the text part of the chart
- b) By alignment of lines of warm- and cold fronts
- c) By alignment and distance of isobaric lines
- d) By alignment and distance of hypsometric lines

16. What technical measure provides electric conductivity to the hull ropes of a web-less gas balloon?

- a) Wrapping with plastic tape.
- b) A surface painting
- c) Impregnation of the ropes
- d) Embedded steel threads (filiaments).

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

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

18. What is the relationship between pressure and volume of a dry gas at constant temperature?

- a) The volume increases by a factor of 4 with double pressure
- b) The volume is inversely proportional to pressure
- c) The ration between pressure and volume is constant
- d) The volume increases proportional with pressure

19. What wind conditions should be expected in the vicinity of showers or thunderstorms?

- a) Calm winds during passage of a shower.
- b) Steady wind from direction of shower.
- c) Strong gust from variable directions.
- d) Steady wind into direction of shower

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20. Which statement is correct with regard to the polar axis of the Earth?

- a) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is at an angle of 23.5° to the plane of the equator
- b) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is perpendicular to the plane of the equator
- c) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is perpendicular to the plane of the equator
- d) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is at an angle of 66.5° to the plane of the equator

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

22. In case of damage of the hull of a gas ballon	, repairs have to be done b	y a certified Approved A	Aeronautical
Workshop when exceeding a length of:			

a) 1.0 m

b) 2.0 m

c) 0.5 m

d) 5.0 m

23. Which of the following options are possible SSR-Transponder modes?

a) B, R, S

b) A, C, S

c) A, C, R

d) B, C, V

24. How does the norm height of a gas balloon with maximum differential pressure change by dropping ballast?

- a) It increases by 8 m when total mass is reduced by 10%.
- b) It increases by 80 m when total mass is reduced by 1%
- c) It decreases by 8 m when total mass is reduced by 10%.
- d) It decreases by 80 m when total mass is reduced by 1%.

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25. Which transponder code indicates a loss of radio communication?

- a) 7700
- b) 7600
- c) 7000
- d) 2000

26. In which situations should a pilot use blind transmissions?

- a) When a transmission containing important navigational or technical information is to be sent to several stations at the same time
- b) When a pilot has flown into cloud or fog unintentionally and therefore would like to request navigational assistance from a ground unit
- c) When no radio communication can be established with the appropriate aeronautical station, but when evidence exists that transmissions are received at that ground unit
- d) When the traffic situation at an airport allows the transmission of information which does not need to be acknowledged by the ground station

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

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

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

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

29. Cold air inflow in high tropospheric layers may result in...

- a) Stabilisation and calm weather
- b) Showers and thunderstorms.
- c) Calm weather and cloud dissipation.
- d) Frontal weather.

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30. What has to be considered before a balloon ride across water surfaces?

- a) A transponder has to be installed and carried aboard
- b) For all people inside the basket life jackets have to be carried aboard
- c) A flight plan with detailled routing has to be filed.
- d) Continuous radio communication has to be established with air traffice control

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

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

32. The term "tropopause" is defined as...

- 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 mesosphere and the stratosphere
- d) The boundary area between the troposphere and the stratosphere.

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

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

34. An aircraft travels 100 km in 56 minutes. The ground speed (GS) equals...

- a) 93 kt
- b) 198 kt.
- c) 107 km/h
- d) 58 km/h.

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35. The measurement of altitude is based on the change of the...

- a) Dynamic pressure.
- b) Static pressure.
- c) Differential pressure.
- d) Total pressure.

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

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

37. The angle between compass north and magnetic north is called...

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

38. Which phrase does a pilot use when he / she wants to check the readability of his / her transmission?

- a) What is the communication like?
- b) You read me five
- c) How do you read?
- d) Request readability

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

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

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40. After take-off with a balloon, obstacles at a distance of 600 m erect in expected flight path up to 40 m height. Rate of climb is expected with 1.5 m/s. What maximum actual wind speed can be accepted to maintain a clearance of 50 m above obstacles, assuming double the actual wind speed for calculation?

a) 1 m/s
o) 3 m/s
c) 5 m/s
d) 10 m/s
41. In a given height, a given amount of ballast is uloaded from a gas balloon. How is the increase in height at 5500m different from the increase in height at MSL by unloading the same amount of ballast?
a) At 5500m the increase in height is twice as high.
b) At 5500m the increase in height is three times as high.
c) At both heights the same increase in height is observed.
d) At 5500m the increase in height is four times as high.
42. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 270 m obstacles ere up to 40 m. What is the minimum rate of climb to keep a clearance of 50 m above the obstacles? (Consider double the ground wind speed for the flight path)
a) 1 m/s
b) 2 m/s
c) 1.5 m/s
d) 0.5 m/s
43. The "Certificate of Airworthiness" is issued by the state
43. The "Certificate of Airworthiness" is issued by the state a) Of the residence of the owner.

c) In which the airworthiness review is done.

d) In which the aircraft is constructed.

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44. 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 12 degrees or less below the true 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 apparent horizon.
- c) 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.
- 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

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

\ 	4.1	 10101			

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

46. 5500 m equal...

a)	7500	ft
u	, 000	

b) 18000 ft.

c) 10000 ft.

d) 30000 ft.

47. While overflying a waypoint, it is stated that a distance of 2 NM has been taken 10 min. What will be the expected time of endurance for the complete distance of 18 NM?

a)	60	min.
ω_j	\circ	

b) 12 min.

c) 180 min.

d) 90 min.

48. The term 'isogonal' or 'isogonic line' is defined as a line on an aeronautical chart, connecting all points with the same value of...

- a) Variation
- b) Inclination.
- c) Heading.
- d) Deviation.

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49. What is the purpose of the signal square at an aerodrome?

- a) It is a specially marked area to pick up or drop towing objects
- b) It is an illuminated area on which search and rescue and fire fighting vehicles are placed
- c) It contains special symbols to indicate the conditions at the aerodrome visually to over-flying aircraft
- d) Aircraft taxi to this square to get light signals for taxi and take-off clearance

50. The pressure at MSL in ISA conditions is...

- a) 1013.25 hPa.
- b) 113.25 hPa
- c) 1123 hPa.
- d) 15 hPa.

51. Which direction corresponds to 'compass north' (CN)?

- a) The most northerly part of the magnetic compass in the aircraft, where the reading takes place
- b) The direction from an arbitrary point on Earth to the geographical North Pole
- c) The angle between the aircraft heading and magnetic north
- d) The direction to which the direct reading compass aligns due to earth's and aircraft's magnetic fields

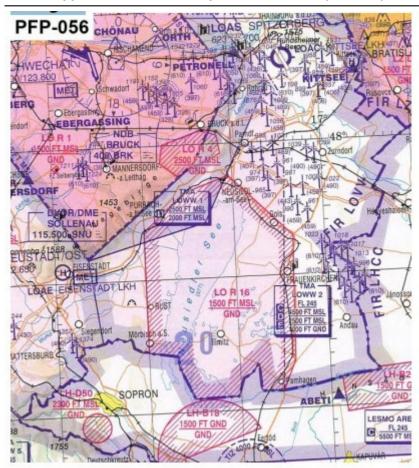
52. If there is any doubt about ambiguity, a time of 1620 is to be transmitted as...

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

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53. The upper limit of LO R 16 equals... See annex (PFP-056) Siehe Anlage 2



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

54. Which of the human senses is most influenced by hypoxia?

- a) The tactile perception (sense of touch)
- b) The oltfactory perception (smell)
- c) The visual perception (vision)
- d) The auditory perception (hearing)

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55. With Central European Summer Time (CEST) given as UTC+2, what UTC time corresponds to 1600 CEST?

- a) 1700 UTC.
- b) 1600 UTC.
- c) 1500 UTC.
- d) 1400 UTC.

56. With pressure and temperature given, any gas being heavier or lighter than air depends on what?

- a) On the content of water vapour in the gas
- b) On the mean kinetic energy of the molecules
- c) On the number of gas molecules
- d) On the molecule mass of the gas

57. Which validity does the "Certificate of Airworthiness" have?

- a) 12 years
- b) 12 months
- c) Unlimited
- d) 6 months

58. Vienna (LOWW) is located at 016° 34'E, Salzburg (LOWS) at 013° 00'E. The latitude of both positions can be considered as equal. What is the difference of sunrise and sunset times, expressed in UTC, between Wien and Salzburg? (2,00 P.)

- a) In Vienna the sunrise and sunset are about 4 minutes later than in Salzburg
- b) In Vienna the sunrise and sunset are about 14 minutes earlier than in Salzburg
- c) In Vienna the sunrise is 4 minutes later and sunset is 4 minutes earlier than in Salzburg
- d) In Vienna the sunrise is 14 minutes earlier and sunset is 14 minutes later than in Salzburg

59. How will the sag of the pull rope change during descent?

- a) It will remain unchanged
- b) It will increase
- c) It will change periodically
- d) It will decrease

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60. How do spread and relative humidity change with increasing temperature?

- a) Spread increases, relative humidity increases
- b) Spread remains constant, relative humidity increases
- c) Spread remains constant, relative humidity decreases
- d) Spread increases, relative humidity decreases

61. Which of the following messages has the highest priority?

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

62. How do dew point and relative humidity change with decreasing temperature?

- a) Dew point increases, relative humidity decreases
- b) Dew point remains constant, relative humidity decreases
- c) Dew point remains constant, relative humidity increases
- d) Dew point decreases, relative humidity increases

63. What are primary criteria for selecting a landing site? 1. Obstacle situation 2. Elevation of the site 3. Strength of surface wind

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

64. A gas balloon has to be equipped with which tethers?

- a) 1 at 40 m or 4 at 10 m
- b) 1 at 30 m or 3 at 10 m
- c) 2 at 10 m or 1 at 20 m
- d) 2 at 20 m or 1 at 10 m

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

a) Strato-		

- b) Alto-.
- c) Cirro-.
- d) Nimbo-.

66. During buildup of a gas balloon, sacks with sand are hooked up. The end of the hooks should be directed ...

- a) Parallel to net path
- b) Outside
- c) Inside
- d) Perpedicular to net path

67. The vertical extend of air with pressure changing by 1% with 80 m difference in height is referred to as ...

- a) Unstable
- b) Homogene
- c) Stable
- d) Inhomogene

68. The altimeter can be checked on the ground by setting...

- a) QNE and checking that the indication shows zero on the ground.
- b) QFF and comparing the indication with the airfield elevation.
- c) QNH and comparing the indication with the airfield elevation.
- d) QFE and comparing the indication with the airfield elevation.

69. What is the distance between the two parallels of longitude 150°E and 151°E along the equator?

- a) 60 NM
- b) 60 km
- c) 1 NM
- d) 111 NM

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70. The minimum flight visibility at 5000 ft MSL in airspace B for VFR flights is...

a١	50	ററ	m

- b) 3000 m.
- c) 1500 m.
- d) 8000 m.

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

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