STUDENT NAME:





| , , | | |
|---------------------------------------|--|--|
| b) Flight regularity message | | |
| c) Message related to direction find | ing | |
| d) Meteorological message | | |
| | | |
| 02. 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 | ayer of clouds covering more than half of the sky below 10000 ft | |
| c) Altitude of the base of the lowest | layer of clouds covering more than half of the sky below 20000 ft. | |
| d) Height of the base of the lowest | ayer of clouds covering more than half of the sky below 20000 ft. | |
| | | |
| | | |

DATE AND TIME:

04. Damages at the basket ropes have to be fixed by:

a) By the balloon pilot.

d) Variation.

- b) Upon the next Aeronautical Recurrence Certification.
- c) By an Aprroved Aeronautical Workshop.
- d) By tying with a part of a spare rope (during cruise)

05. Which transponder code should be set during a radio failure without any request?

- a) 7000
- b) 7500
- c) 7700
- d) 7600

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06. What factors may indicate a tendency to fog formation?

- a) Low pressure, increasing temperature
- b) Strong winds, decreasing temperature
- c) Low spread, increasing temperature
- d) Low spread, decreasing temperature

07. Which transponder code has to be set unrequested during an emergency?

- a) 7700
- b) 7500
- c) 7600
- d) 7000

08. How can the vents be checked before take-off with a gas balloon?

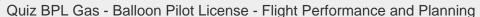
- a) Connecting the filling nozzle with the static line loop.
- b) Strongly shaking the vent rope
- c) Perform a valve slide
- d) Check if the ropes are clear and working.

09. How do volume, density and temperature change when a gas is being compressed?

- a) Volume decreases, density increases, temperature increases.
- b) Volume decreases, density increases, temperature increases.
- c) Volume increases, density decreases, temperature decreases
- d) Volume decreases, density decreases, temperature decreases.

10. Wake turbulence is caused by...

- a) Wind shear at the wingtip of an aerofoil
- b) Jet blast behind a turbine engine.
- c) Turbulence at the downwind side of a mountain range.
- d) Pressure compensation at the wingtip of an aerofoil.





11. What does a readability of 3 indicate?

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

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

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

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

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

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

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

15. What is the difference in time when the sun moves 10° of longitude?

- a) 0:04 h
- b) 0:40 h
- c) 0:30 h
- d) 1:00 h

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16. When do you expect wind shear?

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

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

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

18. The rotational axis of the Earth runs through the...

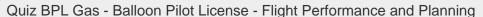
- a) Geographic North Pole and on the geographic South Pole.
- b) Magnetic north pole and on the magnetic south pole.
- c) Geographic North Pole and on the magnetic south pole.
- d) Magnetic north pole and on the geographic South Pole

19. A pilot license issued in accordance with ICAO Annex 1 is valid in...

- a) The country where the license was acquired.
- b) All ICAO countries
- c) The country where the license was issued
- d) Those countries that have accepted this license on application.

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

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





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

| a) | T | urn | left |
|----|-----|------|------|
| u | , . | uiii | IUIL |

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

| 22. A cross-country flight is made using the ICAO 1:500.000 aeronautical chart. An overflight crosscheck shows |
|--|
| that a distance of 4 cm in the chart has been passed within 12 minutes. After how many more minutes, the |
| overflight of another waypoint at a chart distance of additional 6 cm can be expected? |

| a) | 9 | min |
|----|-----|--------|
| u | , , | 111111 |

- b) 6 min
- c) 12 min
- d) 18 min.

23. How should a landing of a gas balloon be conducted at strong winds?

- a) Drop tow; in sufficient height activate rip panel
- b) Activate rip panel without throwing tow
- c) Drop tow; activate rip panel after ground contact
- d) Drop tow; conduct landing with use of valve

24. Air consists of oxygen, nitrogen and other gases. What is the approximate percentage of other gases?

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

25. 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.

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26. What is a latent error?

- a) An error which has an immediate effect on the controls
- b) An error which is made by the pilot actively and consciously
- c) An error which remains undetected in the system for a long time
- d) An error which only has consequences after landing

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

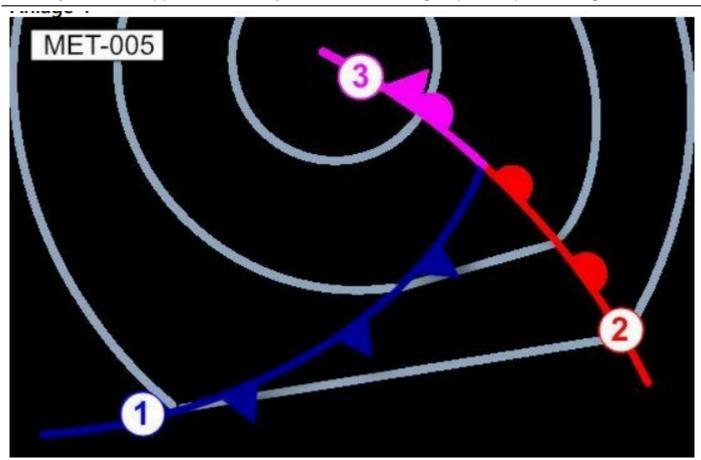
- a) Hijacking
- b) Loss of radio
- c) Flight into clouds
- d) Emergency

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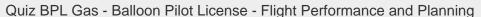
28. The symbol labeled (3) as shown in the picture is a / an... See figure (MET-005) Siehe Anlage 4



- a) Occlusion.
- b) Cold front.
- c) Warm front.
- d) Front aloft.

29. During a flight in an air mass with a temperature equal to ISA and the QNH set correctly, the indicated altitude is...

- a) Higher than the true altitude.
- b) Lower than the true altitude.
- c) Equal to the standard atmosphere.
- d) Equal to the true altitude





30. How many satellites are necessary for a precise and verified three-dimensional determination of the position?

- a) Four
- b) Five
- c) Two
- d) Three

31. What is the function of the red blood cells (erythrocytes)?

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

32. What is the usual direction of movement of a polar front low?

- a) To the northeast during winter, to the southeast during summer
- b) Parallel to the the warm-sector isobars
- c) To the northwest during winter, to the southwest during summer
- d) Parallel to the warm front line to the south

33. 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.

34. 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

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

| a\ | R | ററ | er |
|--------------|------|----|-----|
| \mathbf{a} | , ,, | vu | CI. |

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

36. What effect has the elevation above MSL of an airfield on the carrying force and maximum take-off mass of a balloon?

- a) The higher the elevation, the lower the carrying force.
- b) The lower the elevation, the lower the maximum take-off mass.
- c) The lower the elevation, the higherthe maximum take-off mass.
- d) The higher the elevation, the greater the carrying force.

37. The standard state of gases refers to which temperature?

- a) 15° C
- b) 5° C
- c) 25° C
- d) 0° C

38. The force resulting from the (positive) difference from load-bearing capacity and weight force, is referred to as:

- a) Load force
- b) Upper force
- c) Climb force
- d) Lift force

39. 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

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40. 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) To visualize the range limitation from the departure aerodrome
- c) They help to continue the flight when flight visibility drops below VFR minima
- d) To mark the next available en-route airport during the flight

41. The majority of aviation accidents are caused by...

- a) Human failure
- b) Technical failure
- c) Geographical influences.
- d) Meteorological influences.

42. What conditions are favourable for the formation of thunderstorms?

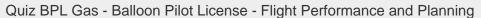
- a) Warm and dry air, strong inversion layer
- b) Clear night over land, cold air and patches of fog
- c) Calm winds and cold air, overcast cloud cover with St or As.
- d) Warm humid air, conditionally unstable environmental lapse rate

43. 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)

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

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





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

| a) Direct reading compass. | |
|--|-----------|
| b) Artificial horizon | |
| c) Airspeed indicator. | |
| d) Turn coordinator. | |
| | |
| 46. After take-off with a balloon, obstacles at a distance of 300 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 clearal of 50 m above obstacles, assuming double the actual wind speed for calculation? | t. nce |
| a) 8 m/s | |
| b) 2.5 m/s | |
| c) 10 m/s | |
| d) 1 m/s | |
| 47. What wind conditions should be expected in the visinity of showers or thunderstorms? | |
| 47. 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 | |
| a) dicady wind into direction of shower | |
| 48. Which type of cloud is associated with prolonged rain? | |
| a) Cirrostratus | |
| b) Altocumulus | |
| c) Cumulonimbus | |
| d) Nimbostratus | |
| | |
| | |
| 49. Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts? | |

a) Wind chart

b) Hypsometric chartc) Prognostic chart

d) Surface weather chart

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50. Under which conditions, no harzards should be expected for a balloon ride?

- a) With high pressure areas before sunset
- b) With an warm front approaching
- c) With an cold front approaching
- d) Close to showers or thunderstorms

51. QFE is the ...

- a) Altitude above the reference pressure level 1013.25 hPa.
- b) Magnetic bearing to a station.
- c) Barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).
- d) Barometric pressure at a reference datum, typically the runway threshold of an airfield.

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

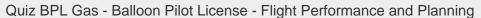
- a) 1, 2 and 3
- b) 2 and 3
- c) 1 and 3
- d) 1 and 2

53. 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

54. What statement is correct with regard to the density of a gas?

- a) The density increases with increasing temperature and constant volume.
- b) The density decreases with increasing temperature and constant volume.
- c) The density decreases with increasing temperature and constant pressure.
- d) The density decreases with decreasing volume and constant temperature.





55. The altimeter's reference scale is set to airfield pressure (QFE). What indication is shown during the flight?

- a) Airfield elevation
- b) Pressure altitude
- c) Altitude above MSL
- d) Height above airfield

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

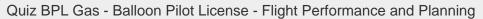
- a) Transmitting blind
- b) No reception
- c) Listen
- d) Blind

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

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

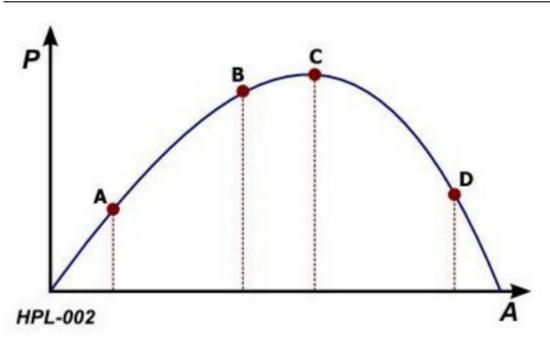
58. Which information from a ground station does not require readback?

- a) Traffic information
- b) Taxi instructions
- c) Heading
- d) Altimeter setting





59. The ideal level of arousal is at which point in the diagram? See figure (HPL- 002) P = Performance A = Arousal / Stress Siehe Anlage 1



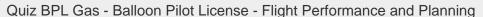
- a) Point A
- b) Point C
- c) Point D
- d) Point B

60. What factor may affect the top of cumulus clouds?

- a) The spread
- b) Relative humidity
- c) The absolute humidity
- d) The presence of an inversion layer

61. At which height the load carrying capability of a gas balloon is reduced by approximately 50% compared to MSL?

- a) At 6.500 m
- b) At 11.000 m
- c) At 18.000 m
- d) At 1.500 m





62. What effect can sudden insolation from sunlight have on a gas balloon?

- a) The height at maximum differential pressure decreases.
- b) The height at maximum differential pressure increases.
- c) The hull pressure decreases.
- d) A sudden increase in rate of descent.

63. Above the friction layer, with a prevailing pressure gradient, the wind direction is...

- a) At an angle of 30° to the isobars towards low pressure.
- b) Perpendicular to the isobars.
- c) Parallel to the isobars.
- d) Perpendicular to the isohypses.

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

a) TH: 194°. DEV: +002

b) TH: 172°. DEV: +002°.

c) TH: 172°. DEV: -002°

d) TH: 194°. DEV: -002°.

65. 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 rumb line distance between A and B is always...

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

66. While overflying a waypoint, it is stated that a distance of 3 NM has been taken 10 min. What will be the expected time of endurance for the complete distance of 18 NM?

- a) 60 min
- b) 90 min.
- c) 12 min
- d) 180 min.

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67. The shown NOTAM is valid until... A1024/13 A) LOWW B) 1305211200 C) 1305211400 E) STOCKERAU VOR STO 113.00 UNSERVICEABLE.

- a) 21/05/2014 13:00 UTC.
- b) 13/05/2013 12:00 UTC.
- c) 13/10/2013 00:00 UTC.
- d) 21/05/2013 14:00 UTC.

68. The character of an air mass is given by what properties?

- a) Wind speed and tropopause height
- b) Environmental lapse rate at origin
- c) Temperatures at origin and present region
- d) Region of origin and track during movement

69. The altimeter is switched from local QNH to 1013.25 hPa...

- a) When climbing above the transition altitude.
- b) At 4000 ft.
- c) At the decision height.
- d) When descending below FL 100.

70. A heading of 285 degrees is correctly transmitted as...

- a) Two hundred eighty-five
- b) Two eight five.
- c) Two eight five hundred
- d) Two hundred eight five.

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

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

70: **B**

69: **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: |
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| 57: | 58: | 59: | 60: |
| 61: | 62: | 63: | 64: |
| 65: | 66: | 67: | 68: |
| 69: | 70: | | |