

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Navigation



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STUDENT NAME:

DATE AND TIME:

01. According ISA, what is the density of air at MSL?

- a) 1.225 g/m³
- b) 1225 kg/m³
- c) 12.25 kg/m³
- d) 1.225 kg/m³

02. 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

03. The term 'magnetic course' (MC) is defined as...

- a) The angle between true north and the course line
- b) The direction from an arbitrary point on Earth to the magnetic north pole
- c) The direction from an arbitrary point on Earth to the geographic North Pole
- d) The angle between magnetic north and the course line

04. 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

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05. 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

06. Changing the shape of the envelope of a free balloon, e.g. by a gust, results in:

- a) Increase in lift
- b) Decrease in volume
- c) Increase of displaced air
- d) Decrease in weight

07. What is the meaning of the abbreviation "AIREP"?

- a) Aeronautical instrument requirement report
- b) Aircraft report
- c) Automatic identification report
- d) Aeronautical information report

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

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

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09. At time of take-off, ground wind speed is 2 m/s. Along take-off flight path, at a distance of 320 m obstacles erect up to 30 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) 1.5 m/s
- c) 2 m/s
- d) 0.5 m/s

10. 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 %

11. A balloon pilot decides to use one or more separate gas containers for initial heating during buildup. To ensure a safe buildup ...

- a) To expedite take-off, the gas containers have to be stored outside
- b) The gas containers have to be fixed safely inside the basket
- c) No separate gas containers are allowed during buildup
- d) Two gas containers (one inside, one outside) are to be used

12. 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 warm-sector isobars
- c) To the northwest during winter, to the southwest during summer
- d) Parallel to the warm front line to the south

13. The ongoing process to monitor the current flight situation is called...

- a) Anticipatory check procedure
- b) Situational thinking
- c) Constant flight check
- d) Situational awareness

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14. What is the ISA standard pressure at FL 180 (5500 m)?

- a) 500 hPa
- b) 1013.25 hPa
- c) 300 hPa
- d) 250 hPa

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

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

16. What is the mass of a "cube of air" with the edges 1 m long, at MSL according ISA?

- a) 0.1225 kg
- b) 12.25 kg
- c) 0.01225 kg
- d) 1.225 kg

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

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

18. 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

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

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

20. A true altitude is...

- a) An altitude above mean sea level corrected for non-standard temperature
- b) A height above ground level corrected for non-standard pressure
- c) A height above ground level corrected for non-standard temperature
- d) A pressure altitude corrected for non-standard temperature

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

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

22. What is the meaning of the abbreviation "VMC"?

- a) Variable meteorological conditions
- b) Visual meteorological conditions
- c) Instrument flight conditions
- d) Visual flight rules

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

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

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24. 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 : 500000
- b) 1 : 1500000
- c) 1 : 1000000
- d) 1 : 150000

25. Which characteristic is important when choosing sunglasses used by pilots?

- a) Curved sidepiece
- b) Unbreakable
- c) No UV filter
- d) Non-polarised

26. What is the meaning of the abbreviation "ARC"?

- a) Airspace Restriction Criteria
- b) Airworthiness Recurring Control
- c) Airworthiness Review Certificate
- d) Airspace Rulemaking Committee

27. 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

28. 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 remaining distance of 18 NM?

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

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29. What is the approximate speed of electromagnetic wave propagation?

- a) 300000 m/s
- b) 123000 m/s
- c) 300000 km/s
- d) 123000 km/s

30. Which answer contains every state of water found in the atmosphere?

- a) Liquid, solid, and gaseous
- b) Gaseous and liquid
- c) Liquid and solid
- d) Liquid

31. Under which conditions, no hazards should be expected for a balloon ride?

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

32. An altitude of 4500 ft is transmitted as...

- a) Four five zero zero
- b) Four thousand five zero zero
- c) Four five thousand
- d) Four thousand five hundred

33. With respect to aircraft accident and incident investigation, what are the three categories regarding aircraft occurrences?

- a) Incident, Serious incident, Accident
- b) Event, Serious event, Accident
- c) Happening, Event, Serious event
- d) Event, Crash, Disaster

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34. 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

35. Temperatures will be given by meteorological aviation services in Europe in which unit?

- a) Degrees Centigrade (° C)
- b) Degrees Fahrenheit
- c) Gpdam
- d) Kelvin

36. 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

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

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

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

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

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39. Regularity messages are messages...

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

40. On what frequency shall a blind transmission be made?

- a) On a tower frequency
- b) On a radar frequency of the lower airspace
- c) On the appropriate FIS frequency
- d) On the current frequency

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

42. The boiling point of propane gas at atmospheric conditions is:

- a) + 5 °C
- b) - 42 °C
- c) - 23 °C
- d) 0 °C

43. The main blast valve is located where?

- a) At the main cylinder
- b) At the burner
- c) At the hull equator
- d) At the upper hull part

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44. 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

45. What is indicated by a red line on the hull thermometer with an analog scale?

- a) The minimum permissible value
- b) The take-off temperature
- c) The maximum permissible value
- d) The recommended operating value

46. Doubling the pressure of a dry gas at constant temperature results in a change of the volume to:

- a) Double the previous value
- b) Half the previous value
- c) Four times the previous value
- d) A quarter of the previous value

47. Regarding the communication model, how can the use of the same code during radio communication be ensured?

- a) By the use of proper headsets
- b) By a particular frequency allocation
- c) By the use of radio phraseology
- d) By using radios certified for aviation use only

48. At which altitude is the atmospheric pressure approximately half the MSL value (1013 hPa)?

- a) 5000 ft
- b) 18000 ft
- c) 22000 ft
- d) 10000 ft

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49. What cause may result in a reduction of volume of a free balloon?

- a) Reduction in mass
- b) A gust
- c) Cooling of environment air
- d) Increase in hull temperature

50. What frontal line divides subtropical air from polar cold air, in particular across Central Europe?

- a) Polar front
- b) Warm front
- c) Cold front
- d) Occlusion

51. Which air traffic services can be expected within an FIR (flight information region)?

- a) FIS (flight information service) ALR (alerting service)
- b) ATC (air traffic control) FIS (flight information service)
- c) AIS (aeronautical information service) SAR (search and rescue)
- d) ATC (air traffic control) AIS (aeronautical information service)

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

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

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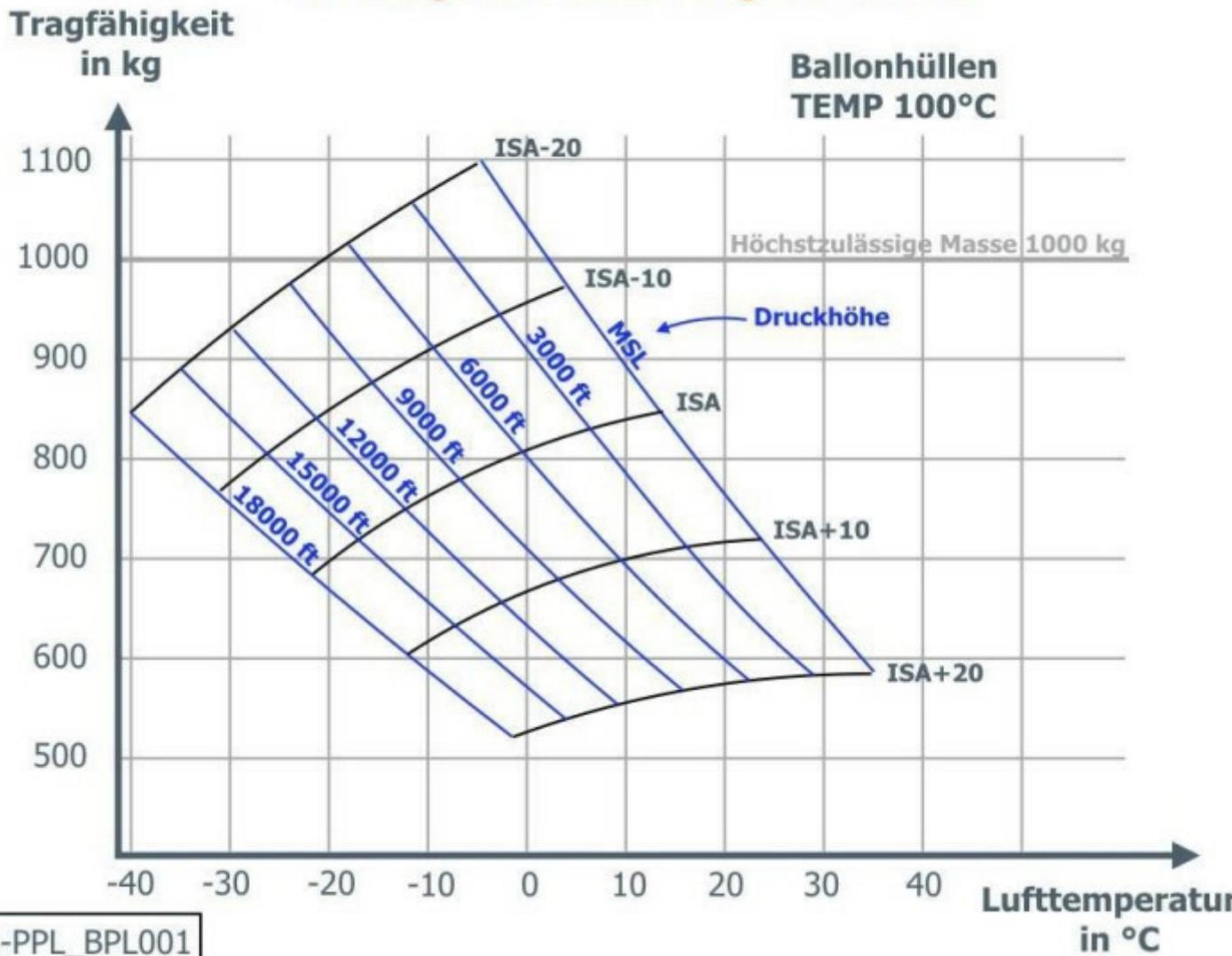
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53. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming ISA temperatures, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 9000 ft ? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



ECQB-PPL_BPL001

- a) 4
- b) 5
- c) 2
- d) 3

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54. Before buildup, the buildup team has to be informed about correct behaviour at sudden critical situations how?

- a) Only at gusty winds
- b) At least two days before
- c) By the balloon pilot
- d) Twice

55. 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

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

- a) Inhomogeneous
- b) Homogeneous
- c) Unstable
- d) Stable

57. Point A on the Earth's surface lies exactly on the parallel of latitude of 47°50'27"N. Which point is exactly 240 NM north of A?

- a) 53°50'27"N
- b) 49°50'27"N
- c) 43°50'27"N
- d) 51°50'27"N

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

- 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

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59. What is the percentage of nitrogen in the atmosphere?

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

60. What pressure pattern may result from cold-air inflow in high tropospheric layers?

- a) Formation of a low in the upper troposphere
- b) Formation of a large ground low
- c) Alternating pressure
- d) Formation of a high in the upper troposphere

61. Wake turbulence is caused by...

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

62. When do you expect wind shear?

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

63. The dynamic lift created by airflow across the top of the envelope of a balloon on the ground is referred to as?

- a) Lower lift
- b) Upper lift
- c) False lift
- d) Anti-ballast

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

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

65. On summer days with calm winds, the balloon pilot has to expect:

- a) With a cold air pool on the ground
- b) With wind shear
- c) With strongly heated surface layers
- d) With a pronounced ground inversion

66. The electronic remote hull thermometer of a hot-air balloon is operating by which principle?

- a) Venturi principle
- b) Boyle principle
- c) Resistance- / Semiconductor principle
- d) Bernoulli principle

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

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

68. How does a gas react when released from a pressurized container?

- a) The gas cools adiabatically due to expansion
- b) The gas cools due to thermal contact with environmental air
- c) The gas heats adiabatically due to expansion
- d) The gas condenses inside the envelope

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69. What condition may prevent the formation of "radiation fog"?

- a) Overcast cloud cover
- b) Clear night, no clouds
- c) Low spread
- d) Calm wind

70. The vertical speed indicator measures the difference of pressure between...

- a) The present dynamic pressure and the static pressure of a previous moment
- b) The present total pressure and the total pressure of a previous moment
- c) The present dynamic pressure and the dynamic pressure of a previous moment
- d) The present static pressure and the static pressure of a previous moment

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Response Scheme

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

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