

Exam simulation

Quiz BPL Gas - Balloon Pilot License - Aircraft General Knowledge



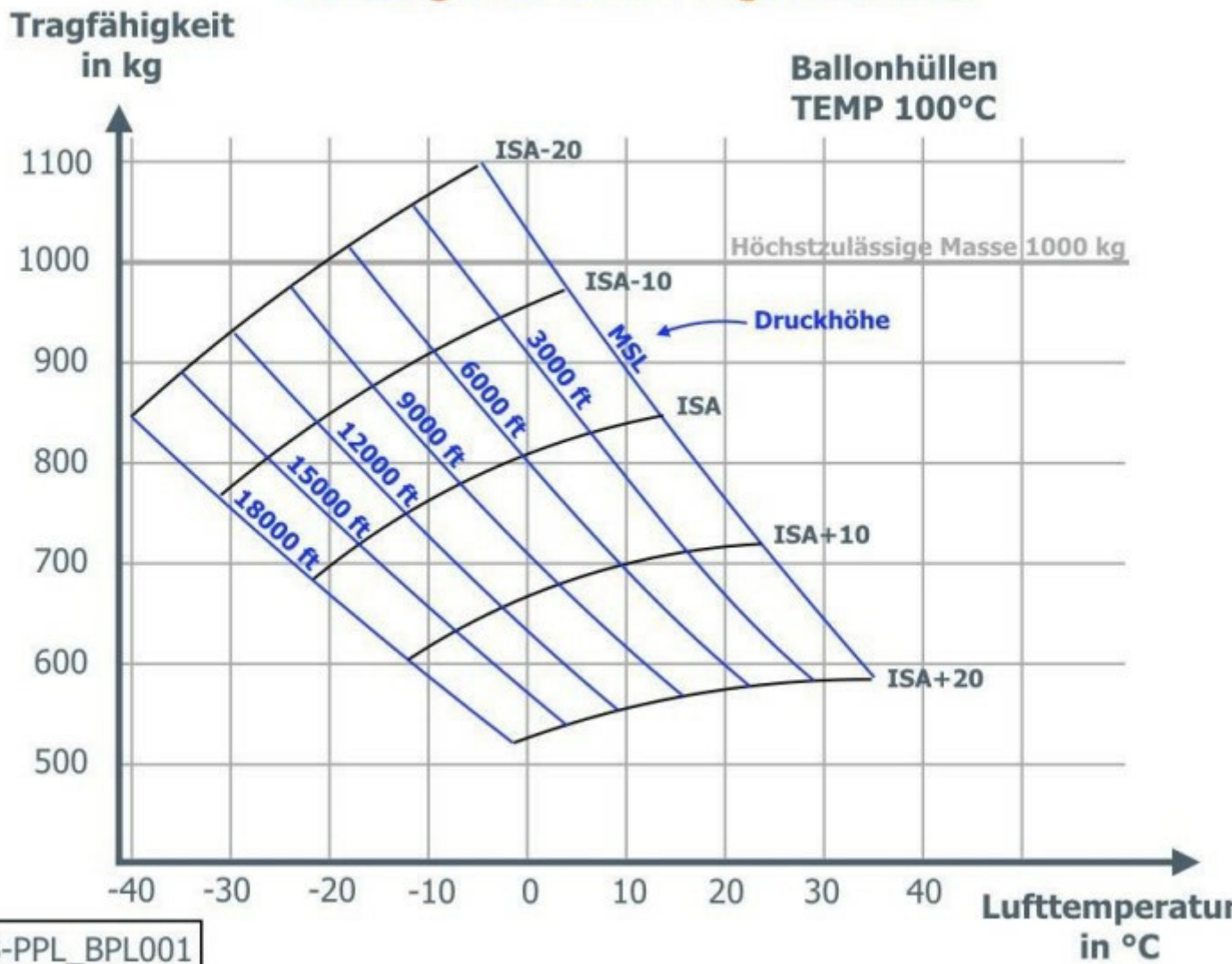
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STUDENT NAME:

DATE AND TIME:

01. 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 9.000 ft ? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



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

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02. Which of the following options states the working principle of a vertical speed indicator?

- a) Measuring the present static air pressure and comparing it to the static air pressure inside a reservoir
- b) Static air pressure is measured and compared against a vacuum
- c) Measuring the vertical acceleration through the displacement of a gimbal-mounted mass
- d) Total air pressure is measured and compared to static pressure

03. What chart shows areas of precipitation?

- a) Radar picture
- b) GAFOR
- c) Wind chart
- d) Satellite picture

04. 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 (filaments)

05. The ratio between air pressures at different heights is referred to as:

- a) Height value
- b) Pressure number
- c) Height ratio
- d) Height number

06. With regard to gases, which statement is correct?

- a) Temperature decreases with increasing pressure and constant volume
- b) Volume increases with increasing temperature and constant pressure
- c) Pressure decreases with increasing temperature and constant volume
- d) Temperature increases with increasing volume and decreasing pressure

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07. 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 %

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

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

09. What is the difference between a gas balloon at or below maximum differential pressure during climb?

- a) The balloon at maximum differential pressure climbs with constant rate to unlimited height
- b) The balloon below maximum differential pressure climbs with constant rate up to maximum differential pressure height
- c) The balloon below maximum differential pressure climbs with constant rate to unlimited height
- d) The balloon at maximum differential pressure climbs with constant rate up to maximum differential pressure height

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

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

11. What effect has air temperature on the carrying force and on maximum take-off mass of a balloon?

- a) Maximum take-off mass is higher at low temperatures
- b) Maximum take-off mass is lower at low temperatures
- c) Carrying force is higher at low temperatures
- d) Carrying force is lower at low temperatures

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

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

13. What is the call sign of the aerodrome control?

- a) Ground
- b) Tower
- c) Airfield
- d) Control

14. 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

15. What is the correct way to transmit the call sign OE-JVK?

- a) Omega Echo Juliett Victor Kilogramm
- b) Omega Echo Jankee Victor Kilo
- c) Oscar Echo Juliett Victor Kilo
- d) Oscar Echo Jankee Victor Kilogramm

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

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

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17. The aerostatic lift corresponds to which force?

- a) The dynamic force due to airstream across the top of the hull
- b) The weight of the displaced air
- c) The drag due to airstream around the balloon envelope
- d) The weight of the balloon less ballast

18. In case of radio communication failure within a CTR (control zone), the pilot has to ...

- a) This has no consequences while in VMC
- b) Maintain current altitude until leaving the control zone
- c) Squawk transponder code A 7500
- d) Continue the ride according to last clearance; in case of imminent danger land immediately

19. 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

20. 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

21. 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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22. With Central European Time (CET) given as UTC+1, what UTC time corresponds to 1700 CET?

- a) 1600 UTC
- b) 1800 UTC
- c) 1500 UTC
- d) 1700 UTC

23. 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

24. A wind shear is...

- a) A slow increase of the wind speed in altitudes above 13000 ft
- b) A meteorological downslope wind phenomenon in the alps
- c) A vertical or horizontal change of wind speed and wind direction
- d) A wind speed change of more than 15 kt

25. Which abbreviation is used for the term "abeam"?

- a) ABB
- b) ABA
- c) ABM
- d) ABE

26. 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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27. What is the gas composition of "air"?

- a) Oxygen 78 % Water vapour 21 % Nitrogen 1 %
- b) Oxygen 21 % Water vapour 78 % Noble gases / carbon dioxide 1 %
- c) Nitrogen 21 % Oxygen 78 % Noble gases / carbon dioxide 1 %
- d) Oxygen 21 % Nitrogen 78 % Noble gases / carbon dioxide 1 %

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

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

29. When using a GPS for tracking to the next waypoint, a deviation indication is shown by a vertical bar and dots to the left and to the right of the bar. What statement describes the correct interpretation of the display?

- a) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection is +-10 NM
- b) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS
- c) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection is +-10°
- d) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection depends on the operating mode of the GPS

30. An inversion layer close to the ground can be caused by...

- a) Ground cooling during the night
- b) Large-scale lifting of air
- c) Thickening of clouds in medium layers
- d) Intensifying and gusting winds

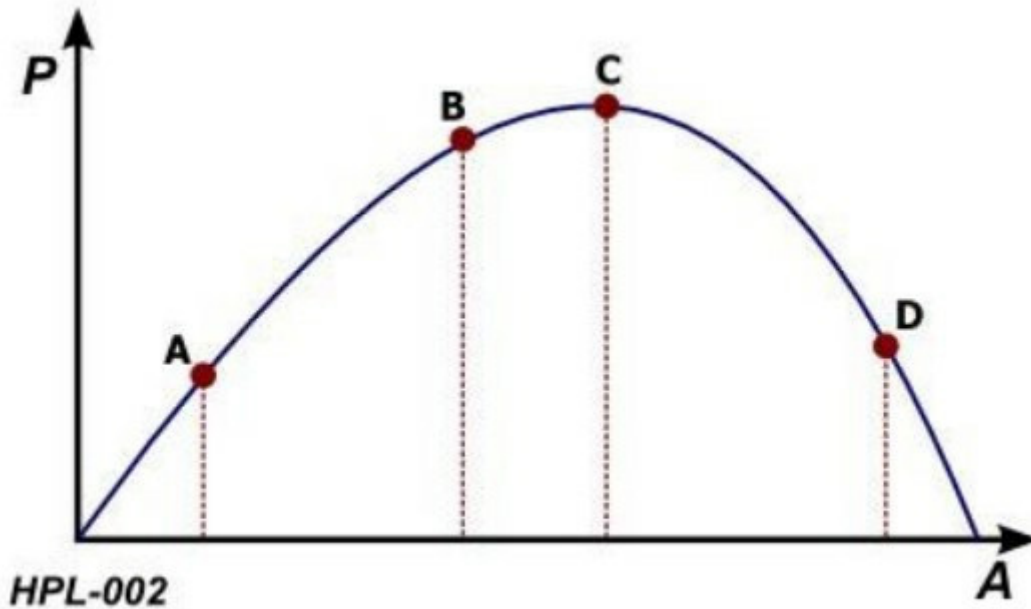
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31. The ideal level of arousal is at which point in the diagram? See figure (HPL-002) P = Performance A = Arousal / Stress



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

32. In case of a water landing, when should the life jackets be inflated?

- a) Before touchdown on water surface
- b) After leaving the basket
- c) After landing, still in the basket, if leaving the basket has to be expected
- d) During cruise over water

33. The purpose of the drag lines of the parachute is ...

- a) To transfer the carrying force of the balloon in the top opening area
- b) To transfer the force from the pull rope to the parachute
- c) To keep the parachute in the center of the top opening
- d) To transfer the force from the pull rope to the free-balloon hull

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34. Which are the properties of a Lambert conformal chart?

- a) The chart is conformal and nearly true to scale
- b) Great circles are depicted as straight lines and the chart is an equal-area projection
- c) Rhumb lines are depicted as straight lines and the chart is conformal
- d) The chart is conformal and an equal-area projection

35. Which transponder code indicates a radio failure?

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

36. 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

37. Environmental air temperature and filling gas temperature are the same. Now, the free balloon descends into warmer air. What statement is correct?

- a) Descent force increases
- b) Descent force decreases
- c) Weight force increases
- d) Weight force decreases

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

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

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39. Under which circumstances is it more likely to accept higher risks?

- a) During check flights due to a high level of nervousness
- b) During flight planning when excellent weather is forecast
- c) Due to group-dynamic effects
- d) If there is not enough information available

40. 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

41. 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

42. What kind of information should be included in an urgency message?

- a) Nature of problem or observation, important information for support, departure aerodrome, information about position, heading and altitude
- b) Intended routing, important information for support, intentions of the pilot, departure aerodrome, destination aerodrome, heading and altitude
- c) Intended routing, important information for support, intentions of the pilot, information about position, departure aerodrome, heading and altitude
- d) Nature of problem or observation, important information for support, intentions of the pilot, information about position, heading and altitude

43. What weather phenomena have to be expected around an upper-level trough?

- a) Formation of high stratus clouds, ground-covering cloud bases
- b) Calm weather, formation of lifted fog layers
- c) Development of showers and thunderstorms (Cb)
- d) Calm wind, forming of shallow cumulus clouds

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44. 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

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

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

46. 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

47. An aerodrome beacon (ABN) is a...

- a) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the ground
- b) Rotating beacon installed at the beginning of the final approach to indicate its location to aircraft pilots from the air
- c) Fixed beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air
- d) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air

48. What is meant by "isothermal layer"?

- a) A boundary area between two other layers within the atmosphere
- b) An atmospheric layer where temperature decreases with increasing height
- c) An atmospheric layer where temperature increases with increasing height
- d) An atmospheric layer with constant temperature with increasing height

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49. What process causes latent heat being released into the upper troposphere?

- a) Descending air across widespread areas
- b) Cloud forming due to condensation
- c) Evaporation over widespread water areas
- d) Stabilisation of inflowing air masses

50. The "spread" is defined as...

- a) Difference between dew point and condensation point
- b) Relation of actual to maximum possible humidity of air
- c) Difference between actual temperature and dew point
- d) Maximum amount of water vapour that can be contained in air

51. 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

52. What kind of reduction in visibility is not very sensitive to changes in temperature?

- a) Haze (HZ)
- b) Radiation fog (FG)
- c) Mist (BR)
- d) Patches of fog (BCFG)

53. What action should be recommended to a balloon pilot after landing with a gas balloon in a forest with large fir trees?

- a) Quick release the gas from the balloon by activating the rip panel
- b) Slowly draining the balloon by gently pulling the vents, until the basket touches ground
- c) Transport the filled balloon by ground crew to a clear area, and dismount it there
- d) Fix the balloon over night; try restart at next morning

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54. 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

55. What is the correct way of acknowledging the instruction "DZF after lift-off climb straight ahead until 2500 feet before turning right heading 220 degrees, wind 090 degrees, 5 knots, runway 12, cleared for take-off"?

- a) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, runway 12, cleared for take-off
- b) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots, cleared for take-off
- c) DZF after lift-off climb straight ahead 2500 feet, wilco, heading 220 degrees, 090 degrees, 5 knots, cleared for take-off
- d) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots

56. What is a direct consequence of increase of the carrying gas temperature at a gas balloon with maximum differential pressure?

- a) Climb force decreases
- b) Weight force increases
- c) Lift force decreases
- d) Load-bearing capability increases

57. 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

58. 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 rhumb 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

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59. 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

60. At equilibrium the inner overpressure of a free balloon is highest at:

- a) At the equator
- b) The upper pole
- c) At the center of the hull
- d) At the lower opening

61. What weather conditions in Central Europe are typically found in high pressure areas during summer?

- a) Small isobar spacing with strong prevailing northerly winds
- b) Large isobar spacing with calm winds, formation of local wind systems
- c) Large isobar spacing with strong prevailing westerly winds
- d) Small isobar spacing with calm winds, formation of local wind systems

62. What weather is likely to be experienced during "Foehn" in the Bavarian area close to the Alps?

- a) High pressure area overhead Biscay and low pressure area in Eastern Europe
- b) Nimbostratus cloud in the southern Alps, rotor clouds at the lee side, warm and dry wind
- c) Cold, humid downhill wind on the lee side of the Alps, flat pressure pattern
- d) Nimbostratus cloud in the northern Alps, rotor clouds at the windward side, warm and dry wind

63. 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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64. Which transponder code indicates a loss of radio communication?

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

65. A true altitude is...

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

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

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

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

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

68. Which processes result in decreasing air density?

- a) Increasing temperature, increasing pressure
- b) Decreasing temperature, decreasing pressure
- c) Increasing temperature, decreasing pressure
- d) Decreasing temperature, increasing pressure

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

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

70. The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the...

- a) Deviation of 0°
- b) Inclination of 0°
- c) Heading of 0°
- d) Variation of 0°

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Response Scheme

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

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