

Exam simulation

Quiz BPL Gas - Balloon Pilot License - Communication



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STUDENT NAME:

DATE AND TIME:

01. 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

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

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

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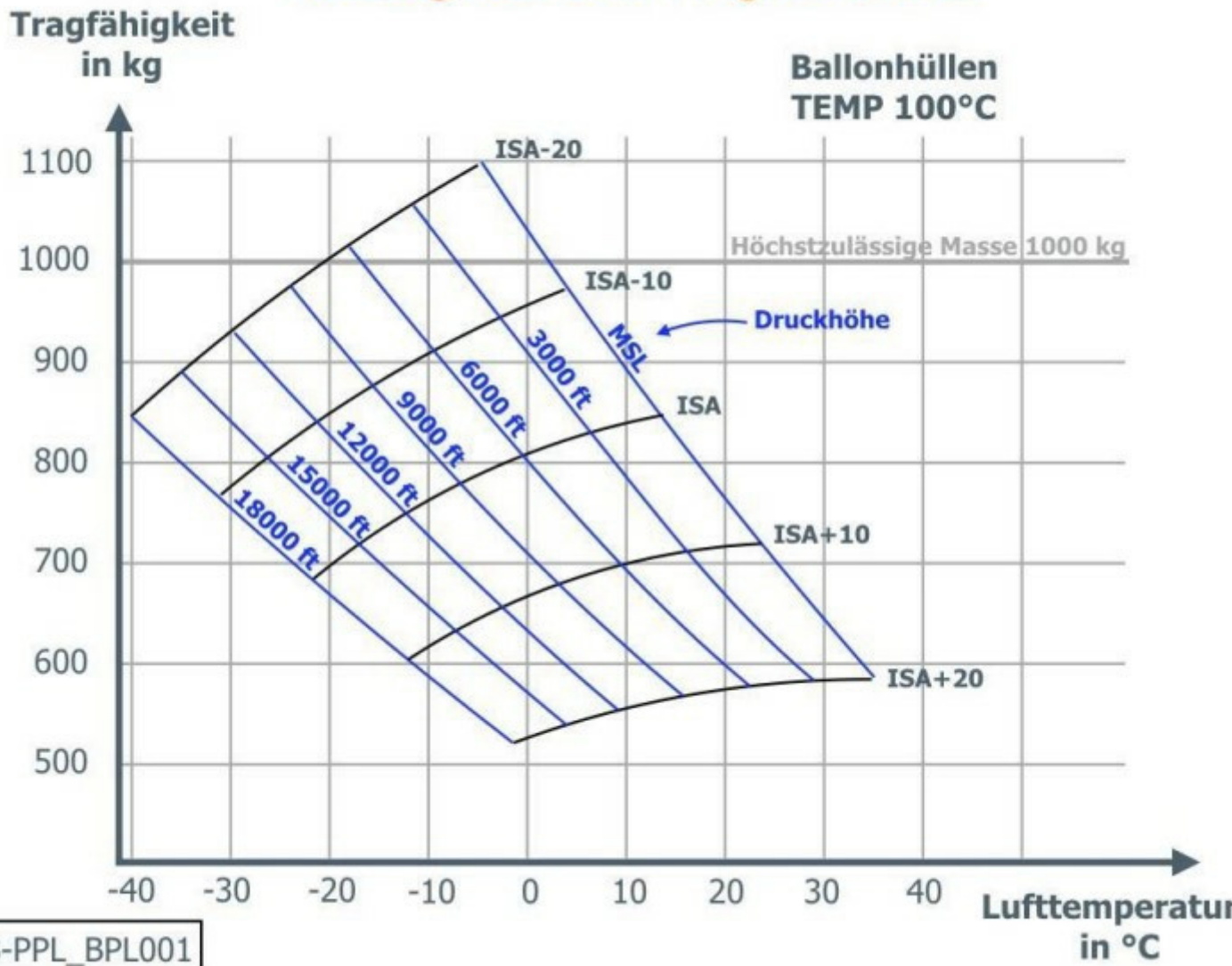
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03. Given the following masses: Empty mass 240 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg U which pressure altitude can the balloon climb with 5 persons and 4 gas containers in the basket, assuming temperatures below ISA? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



- a) 3000 ft
- b) 17000 ft
- c) 13000 ft
- d) 7000 ft

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

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

05. What is the great circle distance between two points A and B on the equator when the difference between the two associated meridians is exactly one degree of longitude?

- a) 60 NM
- b) 216 NM
- c) 400 NM
- d) 120 NM

06. Mountain side updrafts can be intensified by ...

- a) Solar irradiation on the lee side
- b) Thermal radiation of the windward side during the night
- c) Solar irradiation on the windward side
- d) Warming of upper atmospheric layers

07. Times are transmitted as...

- a) Standard time
- b) Time zone time
- c) Local time
- d) UTC

08. 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

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09. 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

10. 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

11. 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

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

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

13. 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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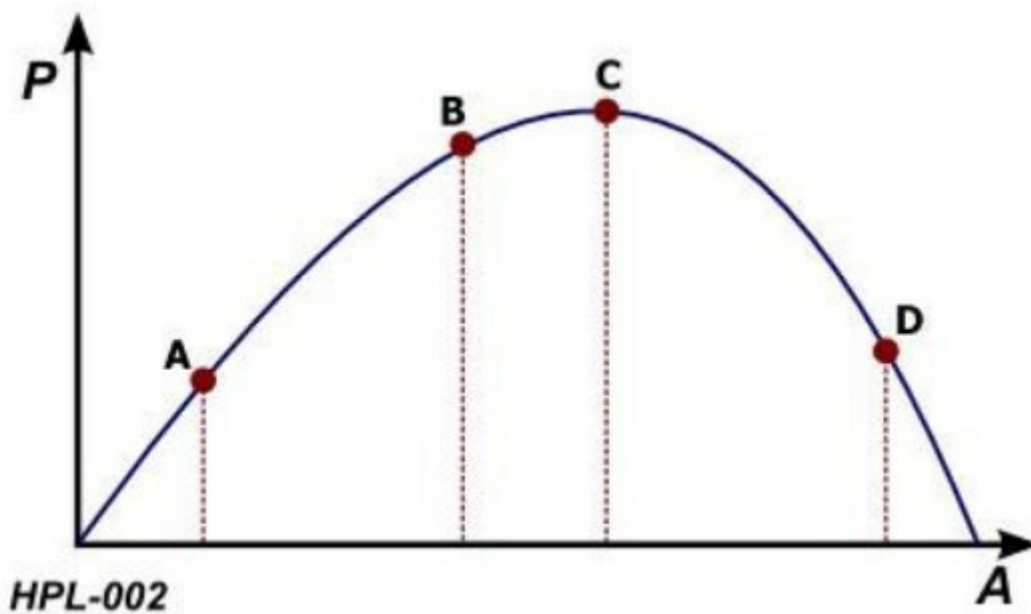


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14. Where has the ballast aboard a gas balloon to be stored during cruise?

- a) Inside the basket
- b) Below the net ending ropes
- c) At the outside wall of the basket
- d) Inside the tow shield

15. 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

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

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

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17. How can expanding filling gas be released in case the filling port of a gas balloon cannot be opened during cruise?

- a) By activating the pull rope
- b) Through the emergency opening
- c) By releasing the filling port cables
- d) By turning the Poeschelring

18. 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

19. What information is provided in the part "AD" of the AIP?

- a) Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods
- b) Table of content, classification of airfields with corresponding maps, approach charts, taxi charts
- c) Warnings for aviation, ATS airspaces and routes, restricted and dangerous airspaces
- d) Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees

20. 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

21. 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

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22. 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

23. What change results from an increase in temperature of the carrying gas and of the environmental air at a gas balloon at maximum differential pressure?

- a) The load capability decreases by 4% per K temperature change
- b) The load capability increases by 4% per K temperature change
- c) The load capability increases by 0.4% per K temperature change
- d) The load capability decreases by 0.4% per K temperature change

24. 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

25. 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
- b) 3 m/s
- c) 5 m/s
- d) 10 m/s

26. The formation of medium to large precipitation particles requires...

- a) An inversion layer
- b) A high cloud base
- c) Strong wind
- d) Strong updrafts

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

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

29. 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 : 2000000
- b) 1 : 1000000
- c) 1 : 500000
- d) 1 : 250000

30. The Empty Mass of a gas balloon includes:

- a) Ballast packages, basket, hull, valve and towing rope
- b) Basket, burner, ballast packages, hull, net and towing rope
- c) Basket, basket ring, valve, net, hull and towing rope
- d) Burner, ballast packages, instruments, net and towing rope

31. 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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32. 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%

33. Given: TC: 179°; WCA: -12°; VAR: 004° E; DEV: +002° What are MH and MC?

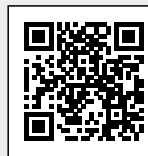
- a) MH: 167°. MC: 175°
- b) MH: 167°. MC: 161°
- c) MH: 163°. MC: 175°
- d) MH: 163°. MC: 161°

34. What is the best combination of traits with respect to the individual attitude and behaviour for a pilot?

- a) Extroverted - stable
- b) Introverted - unstable
- c) Introverted - stable
- d) Extroverted - unstable

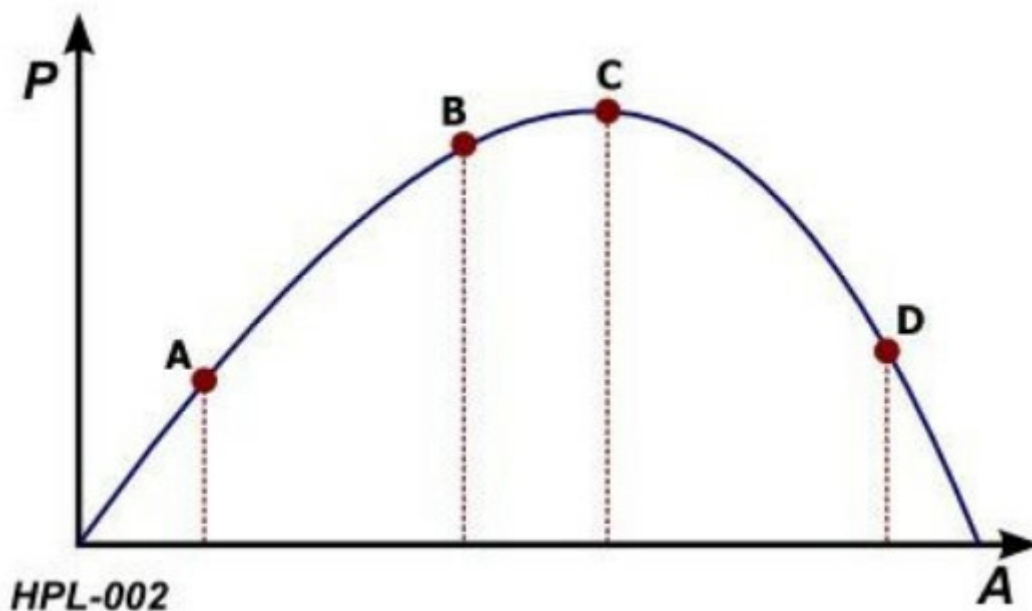
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35. At which point in the diagram will a pilot find himself to be overstrained? See figure (HPL-002) P = Performance
A = Arousal / Stress



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

36. Which instrument can be affected by the hysteresis error?

- a) Tachometer
- b) Altimeter
- c) Vertical speed indicator
- d) Direct reading compass

37. Under what conditions may class D airspace be entered with a radio failure?

- a) It is the destination aerodrome
- b) Approval has been granted before
- c) It is the aerodrome of departure
- d) There are other aircraft in the aerodrome circuit

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38. 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

39. The movement of air flowing together is called...

- a) Subsidence
- b) Convergence
- c) Divergence
- d) Confluence

40. The saturated adiabatic lapse rate is...

- a) Proportional to the dry adiabatic lapse rate
- b) Higher than the dry adiabatic lapse rate
- c) Lower than the dry adiabatic lapse rate
- d) Equal to the dry adiabatic lapse rate

41. Which are the properties of a Mercator chart?

- a) The scale increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- b) The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- c) The scale increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- d) The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines

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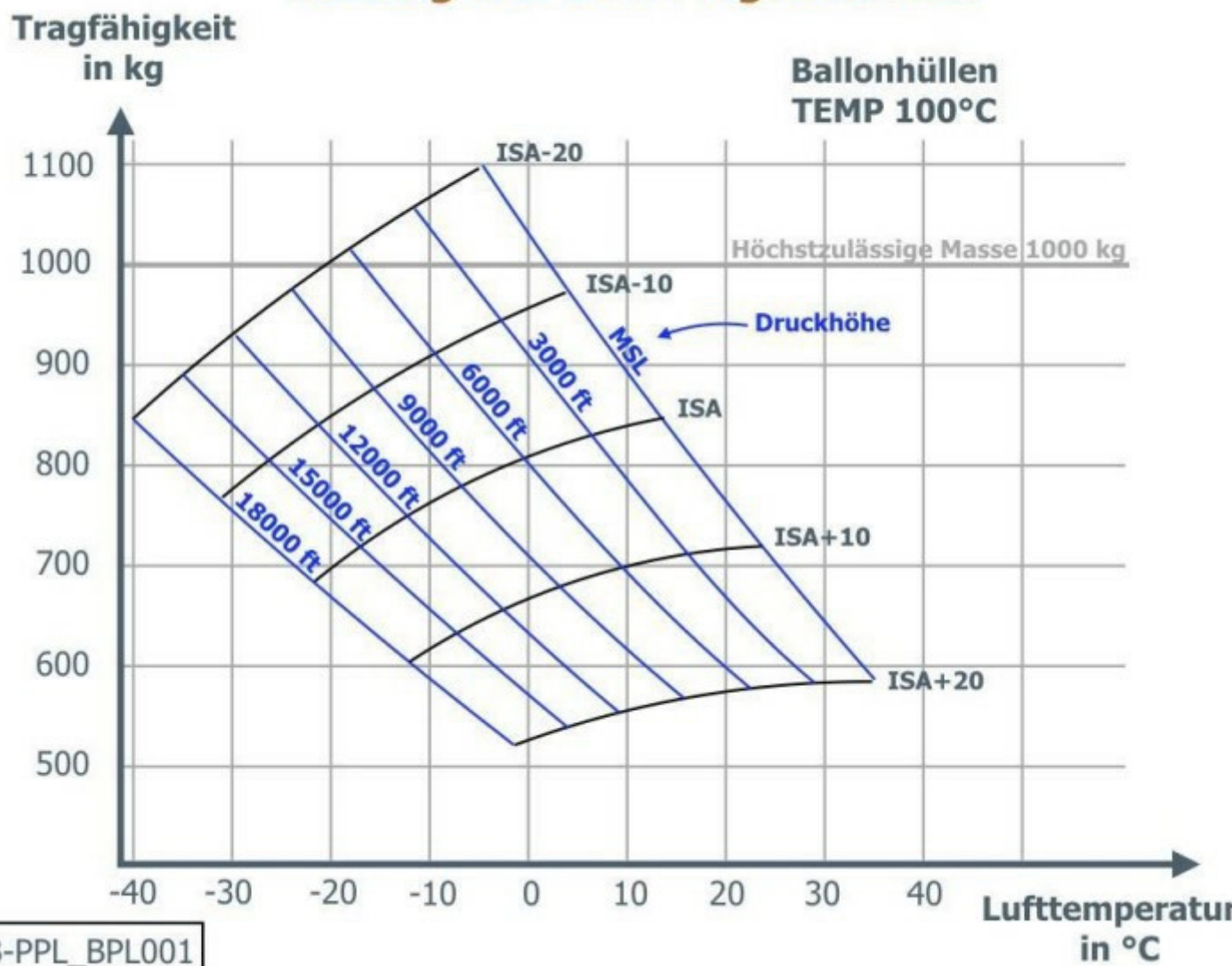
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42. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming temperature ISA+10, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 12.000 ft ? (use attachment ECQB-PPL_BPL001)

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ECQB-PPL_BPL001

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

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43. 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

44. 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

45. What is meant by the term "terrestrial navigation"?

- a) Orientation by instrument readings during visual flight
- b) Orientation by ground features during visual flight
- c) Orientation by GPS during visual flight
- d) Orientation by ground celestial object during visual flight

46. 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

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

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

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48. 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) No separate gas containers are allowed during buildup
- c) The gas containers have to be fixed safely inside the basket
- d) Two gas containers (one inside, one outside) are to be used

49. What visual flight conditions can be expected after the passage of a cold front?

- a) Poor visibility, formation of overcast or ground-covering stratus clouds, snow
- b) Medium visibility with lowering cloud bases, onset of prolonged precipitation
- c) Good visibility, formation of cumulus clouds with showers of rain or snow
- d) Scattered cloud layers, visibility more than 5 km, formation of shallow cumulus clouds

50. What is the correct term for a message used for air traffic control?

- a) Flight safety message
- b) Flight regularity message
- c) Message related to direction finding
- d) Meteorological message

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

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

52. What is the correct designation of the frequency band from 118.000 to 136.975 MHz used for voice communication?

- a) VHF
- b) MF
- c) MF
- d) HF

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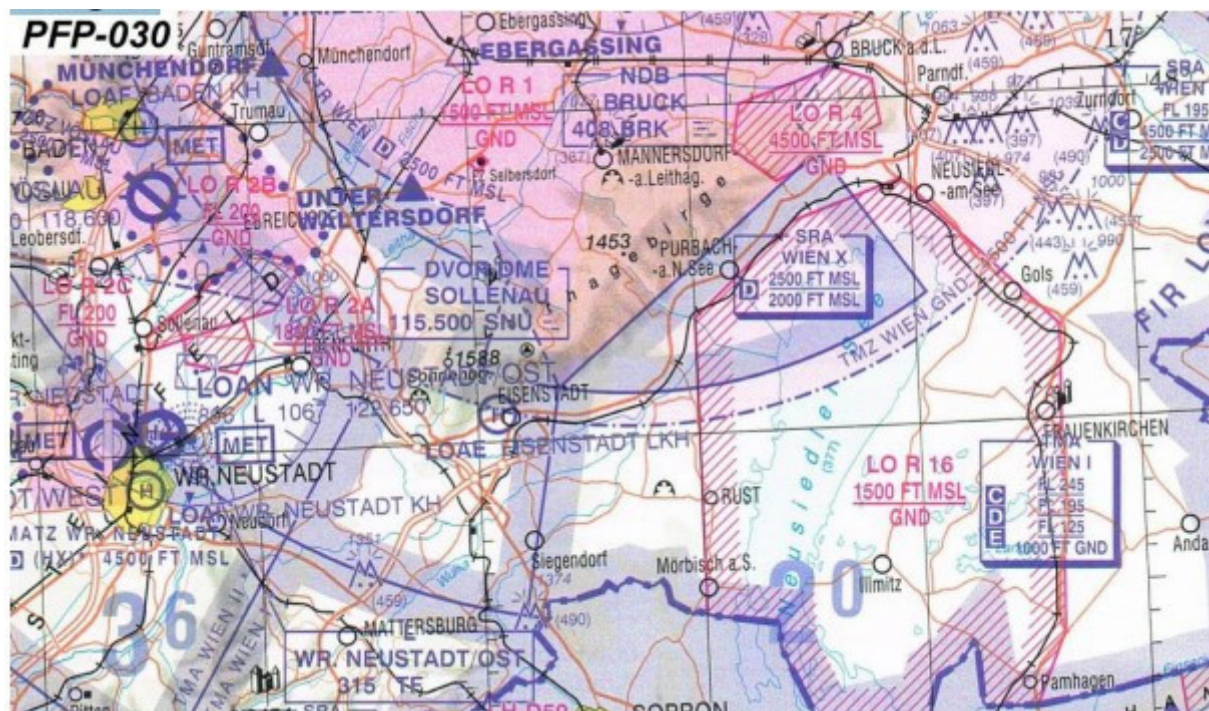
53. What is a direct consequence of increase of the carrying gas temperature at a gas balloon with maximum differential pressure?

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

54. The emergency opening of a gas balloon is located where?

- a) To the side of the appendix
- b) At the upper pole
- c) At the equator
- d) To the side of the valve

55. The upper limit of LO R 4 equals... See annex (PFP-030)



- a) 1500 ft MSL
- b) 1500 ft AGL
- c) 4500 ft MSL
- d) 4500 ft AGL

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56. 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

57. 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

58. 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

59. 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)

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

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

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61. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles?



PFP-061

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

62. 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 %

63. 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

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64. In which way may an altimeter subscale which is set to an incorrect QNH lead to an incorrect altimeter reading?

- a) If the subscale is set to a higher than actual pressure, the indication is too low. This may lead to much greater heights above the ground than intended
- b) If the subscale is set to a lower than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended
- c) If the subscale is set to a lower than actual pressure, the indication is too low. This may lead to much closer proximity to the ground than intended
- d) If the subscale is set to a higher than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended

65. 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

66. 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

67. Which abbreviation is used for the term "obstacle"?

- a) OBS
- b) OBST
- c) OBTC
- d) OST

68. 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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69. The minimum length of the towing rope is:

- a) 20 m
- b) 50 m
- c) 100 m
- d) 30 m

70. Below maximum differential pressure of a gas balloon, temperature increase of the carrying gas by 1K results in:

- a) Volume decrease by 0.4%
- b) Volume increase by 0.4%
- c) Volume increase by 4%
- d) Volume decrease by 4%

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Response Scheme

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

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