

# Exam simulation

Quiz BPL Gas - Balloon Pilot License - Operational Procedures



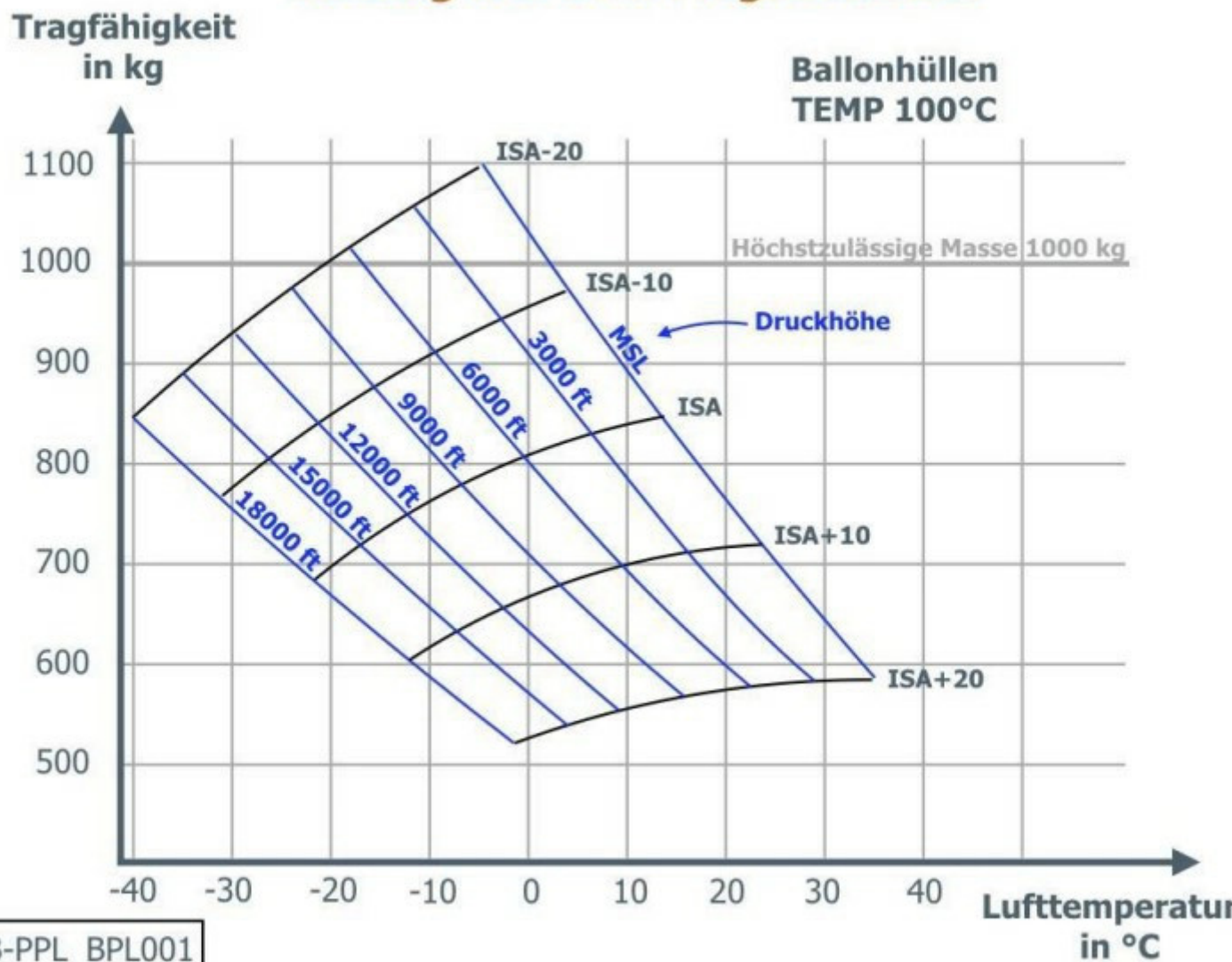
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STUDENT NAME:

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 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) Siehe Anlage 1

## Auszug aus dem Flughandbuch



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

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

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

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

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

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

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

**05. 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 clearance of 50 m above obstacles, assuming double the actual wind speed for calculation?**

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- a) 8 m/s
- b) 2.5 m/s
- c) 10 m/s
- d) 1 m/s

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

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- a) Deviation of  $0^\circ$ .
- b) Inclination of  $0^\circ$ .
- c) Heading of  $0^\circ$
- d) Variation of  $0^\circ$ .

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## 07. What may be the cause of controller icing?

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- a) A cloud has been entered at temperature between +5 and -10°C.
- b) Temperature in the controller is between -1 °C and -5 °C.
- c) Relative humidity is higher than 50%.
- d) Liquid gas has entered the controller.

## 08. What change of wind direction can be expected during the passage of a polar front low in Central Europe?

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- a) Backing wind during passage of the warm front, veering wind during passage of the cold front
- b) Backing wind during passage of the warm front, backing wind during passage of the cold front
- c) Veering wind during passage of the warm front, backing wind during passage of the cold front
- d) Veering wind during passage of the warm front, veering wind during passage of the cold front

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

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

## 10. What is the meaning of the abbreviation "VMC"?

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

## 11. What weather conditions can be expected in high pressure areas during winter?

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- a) Squall lines and thunderstorms
- b) Changing weather with passing of frontal lines
- c) Calm winds and widespread areas with high fog
- d) Calm weather and cloud dissipation, few high Cu

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

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

**13. Which instrument can be affected by the hysteresis error?**

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

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

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

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

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

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16. Up to which altitude is an overflight prohibited according to the NOTAM? See figure (PFP-024) Siehe Anlage 4

A4604/11 NOTAMN

Q)

EDWW/QROLP/IV/NBO/W/000/095/5155N01037E004

A) EDWW

B) 1111180800 C) 1111181200

E) OVERFLYING PROHIBITED FOR ALL TRAFFIC RADIUS  
3.35NM CENTERED AROUND 515436N 0103725E DUE  
TO DEMOLITION OF EXPLOSIVES AT ECKERTHAL,  
(25NM S BRAUNSCHWEIG NDB BRU) .

F) GND

G) 9500 FT AMSL

- a) Flight Level 95
- b) Altitude 9500 m MSL
- c) Height 9500 ft
- d) Altitude 9500 ft MSL

17. 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.

18. 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.

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19. What cloud type does the picture show? See figure (MET-002). Siehe Anlage 2



- a) Altus
- b) Stratus
- c) Cumulus
- d) Cirrus

20. What is the correct course of action when experiencing a radio failure in class D airspace?

- a) The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left by the shortest route
- b) The flight has to be continued according to the last clearance complying with VFR flight rules or the airspace has to be left using a standard routing
- c) The flight has to be continued according to the last clearance complying with VFR rules or the airspace has to be left by the shortest route
- d) The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left using a standard routing

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## 21. The measurement of altitude is based on the change of the...

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

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

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- 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)

## 23. Electronic devices on board of an aeroplane have influence on the...

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

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

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- 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.

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

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- 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

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**26. 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)**

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- a) 1 m/s
- b) 1.5 m/s
- c) 2 m/s
- d) 0.5 m/s





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

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

**28. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles? Siehe Anlage 5**

---

- A 
- B 
- C 
- D 

PFP-061

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



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## 29. The "Certificate of Airworthiness" is issued by the state...

---

- a) Of the residence of the owner.
- b) In which the aircraft is registered.
- c) In which the airworthiness review is done.
- d) In which the aircraft is constructed.

## 30. What is the purpose of "interception lines" in visual navigation?

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- 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

## 31. The directional information "12 o'clock" is correctly transmitted as...

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- a) Twelve o'clock.
- b) One two
- c) One two hundred.
- d) One two o'clock.

## 32. Which dangerous attitudes are often combined?

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- a) Impulsivity and careflessness
- b) Macho and invulnerability
- c) Self-abandonment and macho
- d) Invulnerability and self-abandonment

## 33. A boundary between a cold polar air mass and a warm subtropical air mass showing no horizontal displacement is called...

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- a) Warm front.
- b) Occluded front.
- c) Cold front.
- d) Stationary front

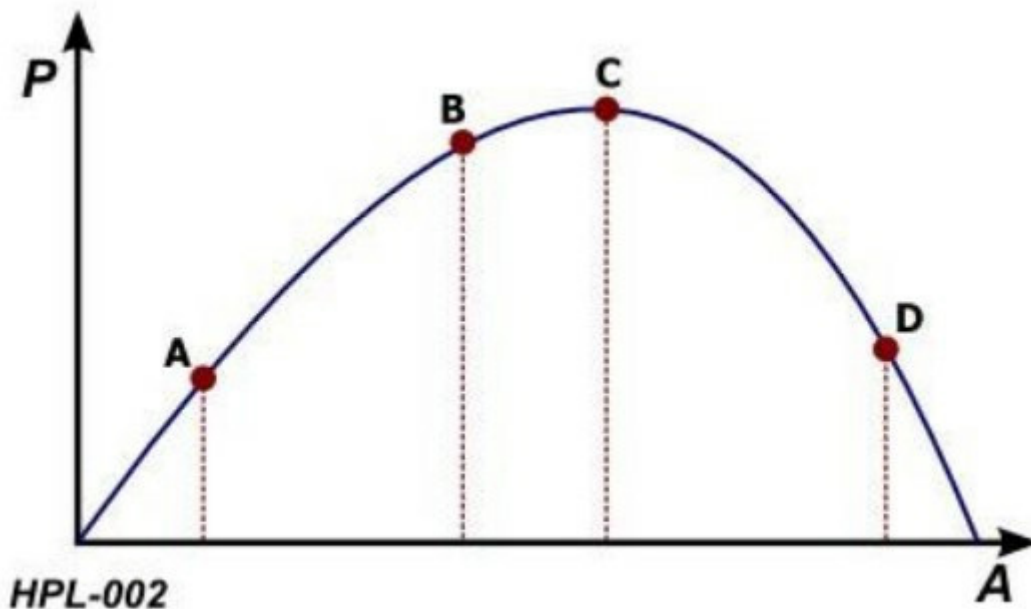
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34. At which point in the diagram will a pilot find himself to be overstrained? See figure (HPL-002) P = Performance  
A = Arousal / Stress Siehe Anlage 1



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

35. Which of the following symptoms may indicate hypoxia?

- a) Blue marks all over the body
- b) Blue discolouration of lips and fingernails
- c) Muscle cramps in the upper body area
- d) Joint pain in knees and feet

36. Which of the following documents have to be on board for an international flight? a) Certificate of aircraft registration b) Certificate of airworthiness c) Airworthiness review certificate d) EASA Form-1 e) Airplane logbook f) Appropriate papers for every crew member g) Technical logbook

- a) A, b, c, e, f
- b) D, f, g
- c) B, c, d, e, f, g
- d) A, b, e, g

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**37. The altimeter is switched from local QNH to 1013.25 hPa...**

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

---

**38. The barometric altimeter with QNH setting indicates...**

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- a) Height above the pressure level at airfield elevation.
- b) Height above standard pressure 1013.25 hPa.
- c) True altitude above MSL.
- d) Height above MSL.

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**39. 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

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

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

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**41. The minimum length of the towing rope is:**

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

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**42. What is the difference in time when the sun moves 20° of longitude?**

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- a) 1:00 h
- b) 1:20 h
- c) 0:20 h
- d) 0:40 h

**43. Which abbreviation is used for the term "visual flight rules"?**

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- a) VFS
- b) VRU
- c) VMC
- d) VFR

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

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

**45. What is the meaning of the abbreviation "ARC"?**

---

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

**46. 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

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**47. Which area could be crossed with certain restrictions?**

- a) Restricted area
- b) No-fly zone
- c) Prohibited area
- d) Dangerous area

---

**48. What information is broadcasted on a VOLMET frequency?**

- a) Meteorological information
- b) NOTAMS
- c) Navigational information
- d) Current information

---

**49. Which stage of a thunderstorm is dominated by updrafts?**

- a) Upwind stage
- b) Cumulus stage
- c) Mature stage
- d) Dissipating stage

---

**50. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 270 m obstacles erect 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

---

**51. 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.

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**52. The density of helium gas under standard conditions is:**

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- a) 0,2 kg / m<sup>3</sup>
- b) 2 kg / m<sup>3</sup>
- c) 0,02 g / m<sup>3</sup>
- d) 0,2 g / m<sup>3</sup>

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

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- 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 poisoning the air
- d) The risk of hydrogen self-igniting and burning with invisible flame.

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

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- a) VAR: 004° E. DEV: -002°.
- b) VAR: 004° W. DEV: +002°.
- c) VAR: 004° E. DEV: +002°.
- d) VAR: 004° W. DEV: -002°

**55. What information can be obtained from satellite images?**

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- a) Flight visibility, ground visibility, and ground contact
- b) Overview of cloud covers and front lines
- c) Turbulence and icing
- d) Temperature and dew point of environmental air

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

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- 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.

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**57. 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

**58. What is the percentage of nitrogen in the atmosphere?**

---

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

**59. What has to be expected during descent above a heated water surface?**

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- a) The rate of descent decreases.
- b) The horizontal speed decreases.
- c) The horizontal speed increases.
- d) The rate of descent increases.

**60. How does the norm height of a gas balloon with maximum differential pressure change, when its mass is reduced by 1%?**

---

- a) Norm height increases by 800 m.
- b) Norm height decreases by 800 m.
- c) Norm height decreases by 80 m
- d) Norm height increases by 80 m.

**61. 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)

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**62. 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°

**63. 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%.

**64. UTC is...**

---

- a) A local time in Central Europe
- b) A zonal time.
- c) Local mean time at a specific point on Earth.
- d) An obligatory time used in aviation.

**65. What must be considered for cross-border flights?**

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

**66. On summerdays with calm winds, the balloon pilot has to expect:**

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



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## 67. What information is provided in the general part (GEN) of the AIP?

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

## 68. 5500 m equal...

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- a) 7500 ft.
- b) 18000 ft.
- c) 10000 ft.
- d) 30000 ft.

## 69. 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

## 70. In what different ways can a risk be handled appropriately?

---

- a) Avoid, ignore, palliate, reduce
- b) Extrude, avoid, palliate, transfer
- c) Ignore, accept, transfer, extrude
- d) Avoid, reduce, transfer, accept

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## Response Scheme

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

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