

# Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Communication



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STUDENT NAME:

DATE AND TIME:

**01. 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

**02. 1000 ft equal...**

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- a) 3000 m.
- b) 300 m.
- c) 30 km.
- d) 30 m.

**03. What phrase is used by a pilot if a transmission is to be answered with "no"?**

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- a) Finish
- b) Negative
- c) No
- d) Not

**04. What is the call sign of the flight information service?**

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- a) Advice
- b) Flight information
- c) Info
- d) Information

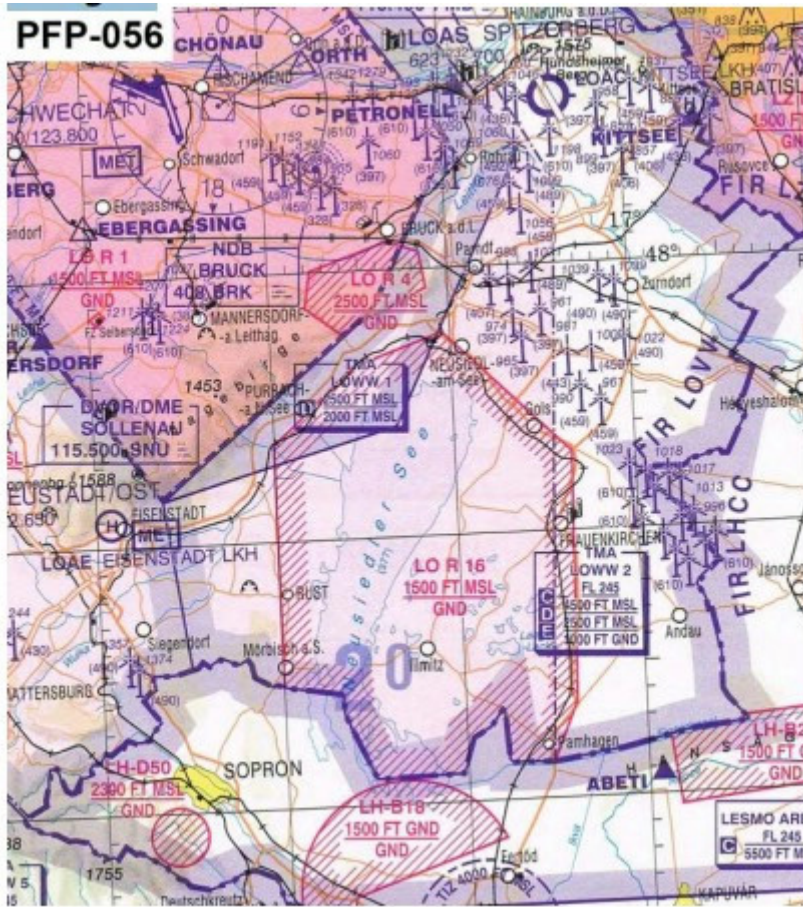
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## 05. The upper limit of LO R 16 equals... See annex (PFP-056) Siehe Anlage 2



- a) FL150.
- b) 1.500 ft GND.
- c) 1 500 ft MSL.
- d) 1 500 m MSL.

## 06. Urgency 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) Concerning the operation or maintenance of facilities essential for the safety or regularity of aircraft operation.
- d) Sent by a pilot or an aircraft operating agency which have an imminent meaning for aircraft in flight.

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## 07. The aerostatic lift corresponds to which force?

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

## 08. What clouds and weather can typically be observed during the passage of a cold front?

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- a) Strongly developed cumulus clouds (Cb) with showers of rain and thunderstorms, gusting wind followed by cumulus clouds with isolated showers of rain
- b) Wind becoming calm, dissipation of clouds and warming during summer; formation of extended high fog layers during winter
- c) Cirrus, thickening altostratus and altocumulus clouds, lowering cloud base with rain, nimbostratus
- d) In coastal areas during daytime wind from the coast and forming of cumulus clouds, dissipation of clouds during evening and night

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

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- 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.

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

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- 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 higher the maximum take-off mass.
- d) The higher the elevation, the greater the carrying force.

## 11. What is the purpose of the vapourizer coils of the burner system?

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- a) To induce a rotation movement in the liquid gas to get a better mixture
- b) For cooling of the liquid gas after exiting the burner nozzles
- c) To heat the liquid gas, so it will vapourize immediately after exiting the burner nozzle
- d) To vapourize the liquid gas, so it will be emitted from the burner nozzle in gaseous form

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

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

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

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

## 14. Which are the different parts of the Aeronautical Information Publication (AIP)?

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- a) GEN ENR AD
- b) GEN MET RAC
- c) GEN COM MET
- d) GEN AGA COM

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

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- 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

## 16. What is the meaning of the abbreviation "ARC"?

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

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**17. What is the distance between the two parallels of longitude 150°E and 151°E along the equator?**

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- a) 60 NM
- b) 60 km
- c) 1 NM
- d) 111 NM

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

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- 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

**19. Aerostatic lift, amongst other factors, depends on...**

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- a) Shape of the envelope.
- b) On the speed.
- c) Balloon mass.
- d) Air density.

**20. During setup of a hot-air balloon, the hull is damaged with a hole with a size of 1.50 m x 1.00 m. Is Take-Off permitted?**

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- a) Yes, if all passengers agree.
- b) Yes, if permitted by the operating handbook.
- c) No, the hull has to be repaired first.
- d) Yes, if loading is reduced.

**21. What phrase is used by a pilot if a transmission is to be answered with "yes"?**

---

- a) Affirmative
- b) Affirm
- c) Roger
- d) Yes

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

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

**23. 5500 m equal...**

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

**24. During buildup of a hot-air balloon, who has to be equipped with tight, flame resistant gloves and clothing covering all body parts?**

---

- a) Only the balloon pilot
- b) Balloon pilot, buildup team and spectators
- c) Only the buildup team
- d) The balloon pilot and the buildup team

**25. What is the meaning of the abbreviation "SERA"?**

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- a) Selective Radar Altimeter
- b) Standard European Routes of the Air
- c) Specialized Radar Approach
- d) Standardized European Rules of the Air

**26. The basket ropes of a hot-air balloon are usually fixed to ...**

---

- a) The burner
- b) The burner cage.
- c) To the Scoop.
- d) The Nomex apron.

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## 27. 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

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

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

## 29. The minimum flight visibility at 5000 ft MSL in airspace B for VFR flights is...

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- a) 5000 m.
- b) 3000 m.
- c) 1500 m.
- d) 8000 m.

## 30. What type of fog emerges if humid and almost saturated air, is forced to rise upslope of hills or shallow mountains by the prevailing wind?

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- a) Orographic fog
- b) Radiation fog
- c) Steaming fog
- d) Advection fog

## 31. What factor may affect the top of cumulus clouds?

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

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**32. Which phrase is to be repeated three times before transmitting an urgency message?**

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- a) Pan Pan
- b) Help
- c) Urgent
- d) Mayday



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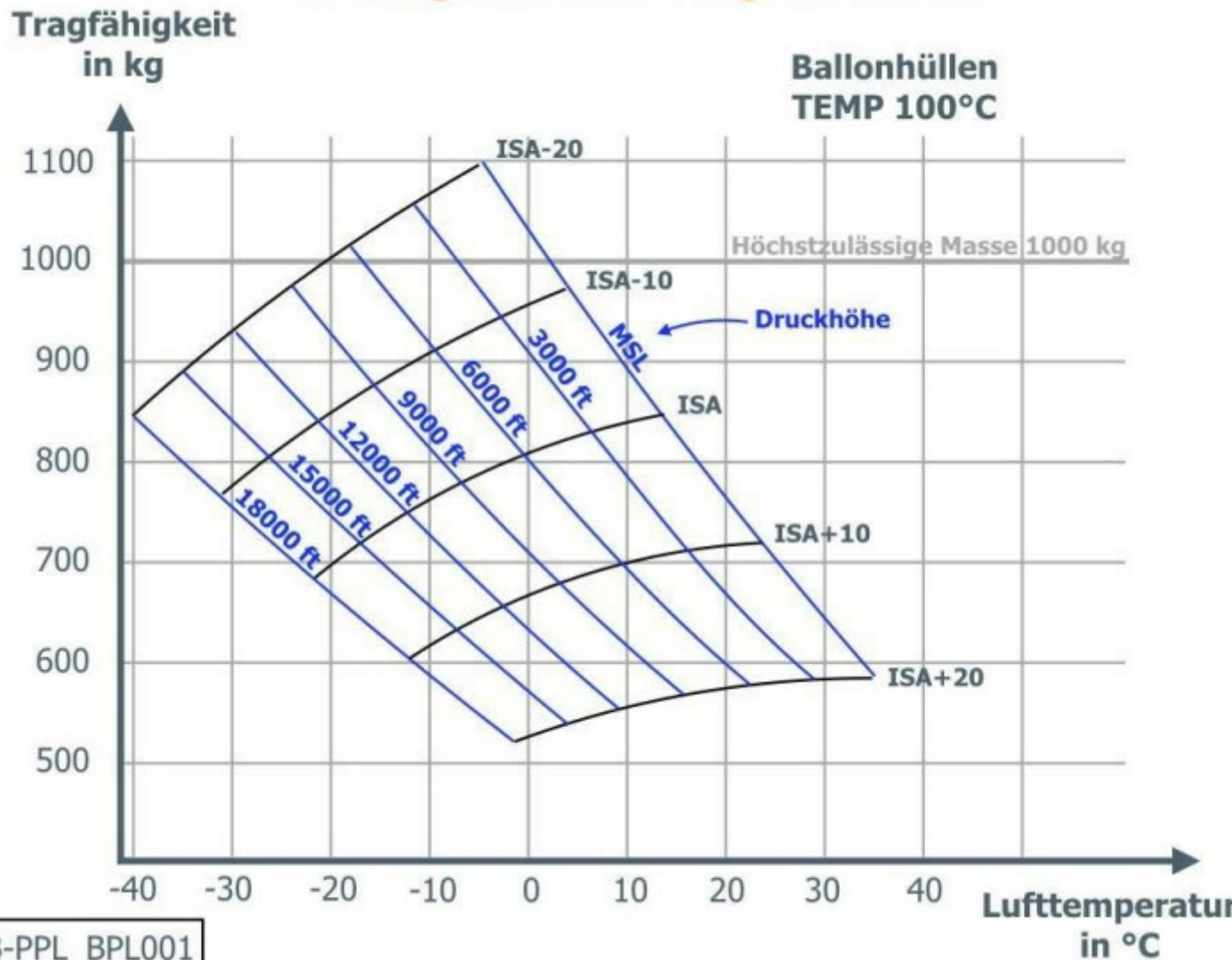
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33. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming ISA temperatures, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 9.000 ft ? (use attachment ECQB-PPL\_BPL001) Siehe Anlage 1

## Auszug aus dem Flughandbuch



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

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**34. 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)**

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

**35. Carbon monoxide poisoning can be caused by...**

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- a) Unhealthy food
- b) Alcohol.
- c) Smoking.
- d) Little sleep.

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

---

- a) Inhomogene
- b) Homogene
- c) Unstable
- d) Stable

**37. How does air temperatur change in ISA from MSL to approx. 10.000 m height?**

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- a) From +30° to -40°C
- b) From -15° to 50°C
- c) From +15° to -50°C
- d) From +20° to -40°C

**38. 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.

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**39. 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°.

**40. At which conditions does the arm blower have the highest efficiency?**

---

- a) With as small distance to the balloon opening as possible.
- b) By evenly swiveling for better air spreading.
- c) By completely filling the balloon opening with the air beam.
- d) By placing the blower inside the hull.

**41. About the lower end of the pull rope of a hot-air balloon it can be said:**

---

- a) It has an especially smooth surface.
- b) It is fixed to the lower basket area
- c) It has to be lubricated before every take-off
- d) It is particularly heat resistant.

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

---

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

**43. 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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**44. 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

**45. Liquifaction of propane gas results in a reduction in volume to what fraction of the gas volume?**

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- a) 1/160
- b) 1/260
- c) 1/360
- d) 1/60

**46. Which transponder code indicates a loss of radio communication?**

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

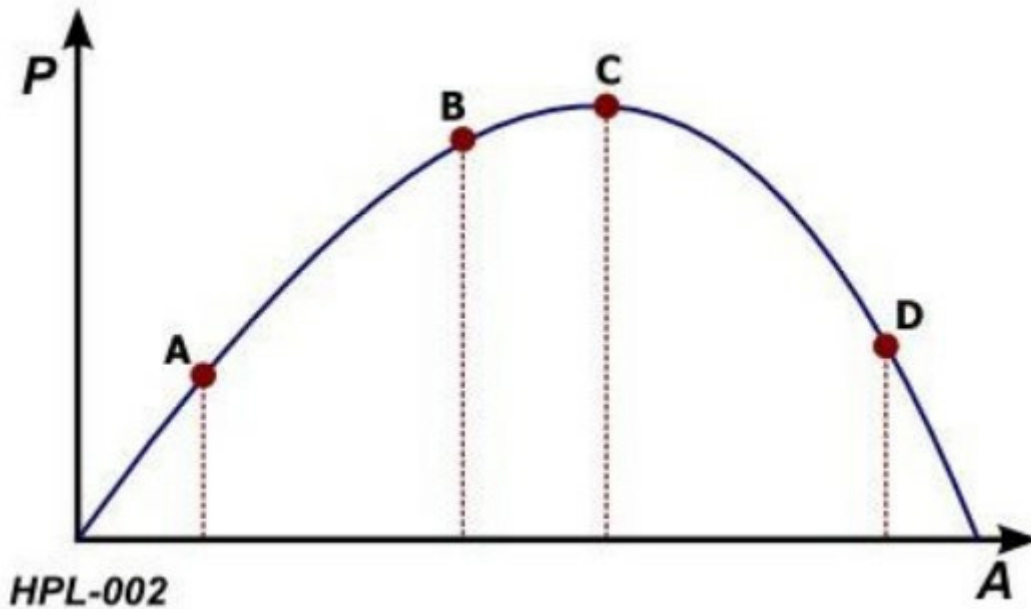
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47. At which point in the diagram will a pilot find himself to be overstrained? See figure (HPL-002) P = Performance  
A = Arousal / Stress Siehe Anlage 1



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

48. What has to be done in case the balloon shows a strong tendency to climb while crossing thermals?

- a) It must be heated continuously to maintain hull temperature.
- b) It must be heated stronger than usual.
- c) The burner has to be cut off immediately.
- d) The pull-rope has to be actuated immediately.

49. Damages to the hot-air balloon hull fabric are most critical in which area?

- a) In the lower third.
- b) At the top area
- c) At the equator
- d) In the apron area.

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**50. Which of the gases stated below is NOT made up from hydrocarbons?**

---

- a) Propane
- b) Butane
- c) Methane
- d) Hydrogen

**51. What does a cloud coverage of "BKN" mean in a METAR weather report?**

---

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

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

---

- 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

**53. What is the minimum flight visibility in airspace "E" for an aircraft operating under VFR at FL75?**

---

- a) 1500 m
- b) 8000 m
- c) 3000 m
- d) 5000 m

**54. Which of the following options are possible SSR-Transponder modes?**

---

- a) B, R, S
- b) A, C, S
- c) A, C, R
- d) B, C, V

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

---

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

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

---

- 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

**57. In which situation is it NOT possible to achieve a pressure compensation between the middle ear and the environment?**

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- a) During a light and slow climb
- b) Breathing takes place using the mouth only
- c) The eustachien tube is blocked
- d) All windows are completely closed

**58. The main blast valve is located where?**

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

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

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

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**60. Before take-off, the balloon pilot realises that the maximum take-off mass has been exceeded by 5%. What has to be done?**

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- a) The load has to be reduced to maximum take-off mass
- b) During take-off, special care has to be taken for obstacles
- c) With exceeding up to 5%, normal take-off can be performed.
- d) Take-off has to be approved by the airfield manager on duty

**61. The hull of a hot-air balloon is made up by which material?**

---

- a) Synthetic fabric
- b) Silk fabric
- c) Linen fabric
- d) Cotton fabric

**62. 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

**63. The increase in load carrying capability by increasing the hull air temperature by the same temperature difference ...**

---

- a) Increases with balloon mass.
- b) Increases with altitude.
- c) Decreases with sinking.
- d) Decreases with altitude.

**64. 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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## 65. Which validity does the "Certificate of Airworthiness" have?

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

## 66. Which of the following statements is correct?

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- a) At higher altitude, sink rate in case of cooling is increased due to less drag by less density.
- b) At higher altitude, sink rate by cooling is not increased because due to low density the mass inside the hull is also less.
- c) Higher drag at higher altitude prevents increased sink rate in case of cooling.
- d) Maximum sink rate must be equal at all altitudes as prescribed by design regulations.

## 67. What wind conditions should be expected in the vicinity of showers or thunderstorms?

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- a) Steady wind from direction of shower.
- b) Steady wind into direction of shower.
- c) Strong gust from variable directions
- d) Calm winds during passage of a shower.

## 68. Which weather phenomenon is typically associated with wind shear?

---

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

## 69. 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.

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## 70. 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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## Response Scheme

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

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