

# Exam simulation

Quiz BPL Gas - Balloon Pilot License - Flight Performance and Planning



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STUDENT NAME:

DATE AND TIME:

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



PFP-061

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

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

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

**03. The directional information "12 o'clock" is correctly transmitted as...**

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

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

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

**05. What is the minimum flight visibility in airspace "C" below FL 100 for an aircraft operating under VFR?**

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- a) 5 km
- b) 1.5 km
- c) 10 km
- d) 8 km

**06. Which of the following symptoms may indicate hypoxia?**

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- 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

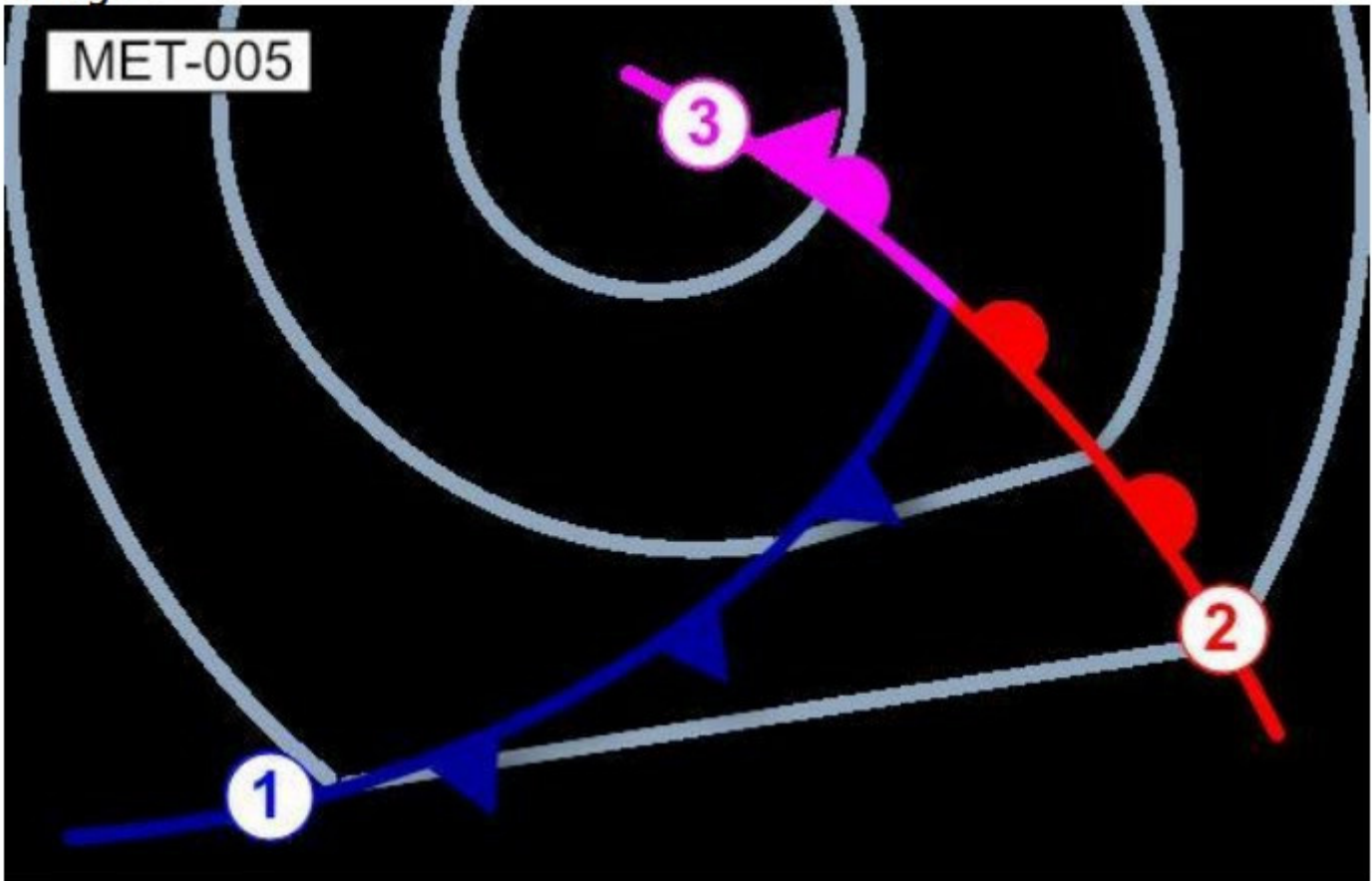
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07. The symbol labeled (1) as shown in the picture is a / an... See figure (MET-005) Siehe Anlage 4



- a) Front aloft.
- b) Cold front.
- c) Occlusion.
- d) Warm front.

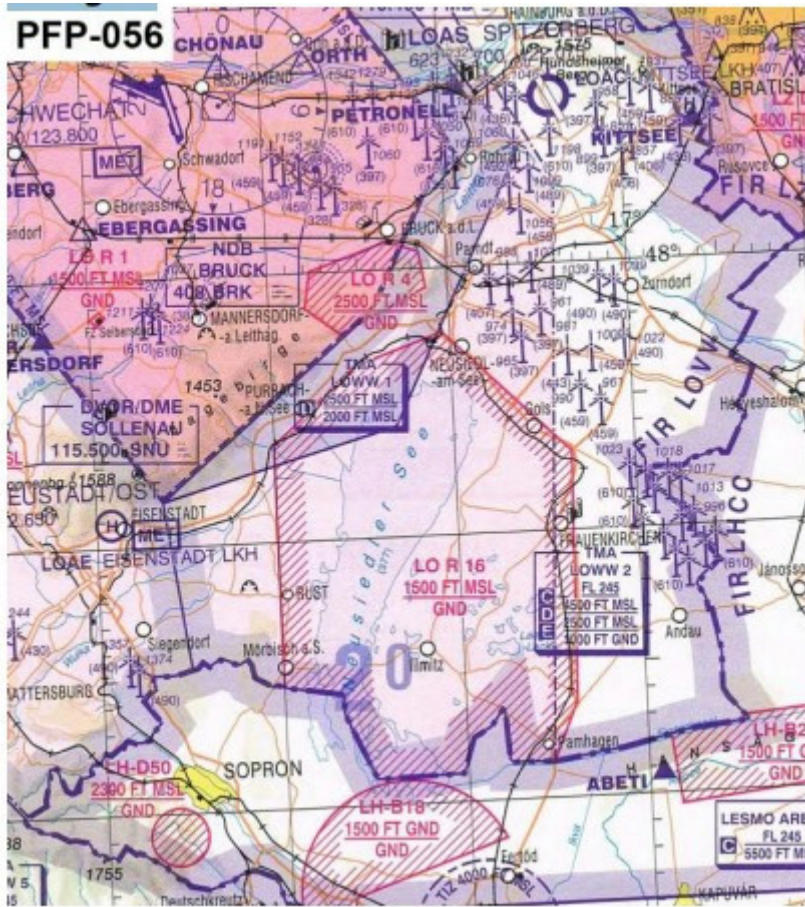
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## 08. The upper limit of LO R 16 equals... See annex (PFP-056) Siehe Anlage 2



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

## 09. 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

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

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

## 11. The term "ceiling" is defined as the...

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- a) Height of the base of the highest layer of clouds covering more than half of the sky below 20000 ft
- b) Height of the base of the lowest layer of clouds covering more than half of the sky below 10000 ft
- c) Altitude of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.
- d) Height of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.

## 12. What does a readability of 5 indicate?

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- a) The transmission is perfectly readable
- b) The transmission is readable but with difficulty
- c) The transmission is unreadable
- d) The transmission is readable now and then

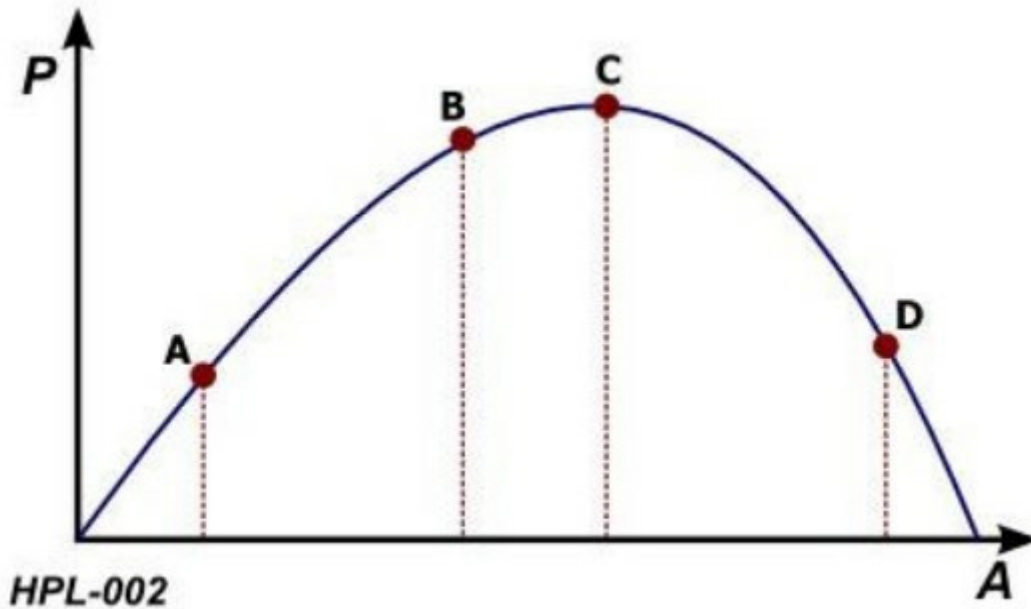
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13. At which point in the diagram will a pilot find himself to be overstrained? See figure (HPL-002) P = Performance  
A = Arousal / Stress Siehe Anlage 1



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

14. The term 'True Course' (TC) is defined as...

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

15. The movement of air flowing apart is called...

- a) Divergence.
- b) Concordence.
- c) Convergence.
- d) Subsidence.

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**16. The assembly of the panels to the hull of a web-less gas balloon is done ...**

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- a) By vulcanisation.
- b) By stitching.
- c) By welding
- d) By glueing.

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**17. Which is the purpose of the altimeter subscale?**

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- a) To reference the altimeter reading to a predetermined level such as mean sea level, aerodrome level or pressure level 1013.25 hPa
- b) To adjust the altimeter reading for non-standard temperature
- c) To set the reference level for the altitude decoder of the transponder
- d) To correct the altimeter reading for system errors

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**18. What are the air masses that Central Europe is mainly influenced by?**

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- a) Equatorial and tropical warm air
- b) Polar cold air and tropical warm air
- c) Tropical and arctic cold air
- d) Arctic and polar cold air

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**19. During a balloon ride, visibility continiously becomes poorer, also cloud base decreases in direction of the current track. How should the balloon pilot react to this situation?**

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- a) Continue ride in ramaining altitude
- b) Use next best chance for landing
- c) Use GPS or radio navigation to continue ride in clouds
- d) Break through the clouds and continue above clouds

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

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- 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

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**21. During buildup of a gas balloon, sacks with sand are hooked up. The end of the hooks should be directed ...**

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- a) Parallel to net path
- b) Outside
- c) Inside
- d) Perpendicular to net path

**22. The term "static pressure" is defined as pressure...**

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- a) Resulting from orderly flow of air particles.
- b) Inside the airplane cabin.
- c) Sensed by the pitot tube.
- d) Of undisturbed airflow.

**23. 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

**24. Which phrase does a pilot use when he / she wants to check the readability of his / her transmission?**

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- a) What is the communication like?
- b) You read me five
- c) How do you read?
- d) Request readability

**25. Air consists of oxygen, nitrogen and other gases. What is the approximate percentage of other gases?**

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



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

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

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

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

**28. The Empty Mass of a gas balloon includes:**

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- 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.

**29. A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 6 cm in the chart has been passed within 9 minutes. After how many more minutes, the overflight of another waypoint at a chart distance of additional 4 cm can be expected?**

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- a) 18 min.
- b) 6 min.
- c) 12 min
- d) 9 min.

**30. The term "runway" is defined as a...**

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- a) Rectangular area on a land or water aerodrome prepared for the landing and take-off of aircraft.
- b) Rectangular area on a land aerodrome prepared for the landing and take-off of helicopters.
- c) Round area on an aerodrome prepared for the landing and take-off of aircraft.
- d) Rectangular area on a land aerodrome prepared for the landing and take-off of aircraf

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**31. What should be considered regarding a scheduled flight over water, when land cannot be reached in case of an emergency landing?**

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- a) Transponder code 7600 has to be set during the whole flight
- b) Contact to the nearest ATC shall consist during the whole flight
- c) The flight plan has to contain the exact waypoints
- d) For all passengers there must be life jackets or lifeboats present

**32. 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

**33. Which statement is correct with regard to the polar axis of the Earth?**

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- a) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is at an angle of  $23.5^\circ$  to the plane of the equator
- b) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is perpendicular to the plane of the equator
- c) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is perpendicular to the plane of the equator
- d) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is at an angle of  $66.5^\circ$  to the plane of the equator

**34. 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.

**35. In what cases is visibility transmitted in kilometers?**

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- a) Up to 5 km
- b) Greater than 5 km
- c) Up to 10 km
- d) Greater than 10 km

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**36. 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?**

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- 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.

**37. At which height the load carrying capability of a gas balloon is reduced by approximately 50% compared to MSL?**

---

- a) At 6.500 m
- b) At 11.000 m
- c) At 18.000 m
- d) At 1.500 m

**38. What has to be considered before a balloon ride across water surfaces?**

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- a) A transponder has to be installed and carried aboard
- b) For all people inside the basket life jackets have to be carried aboard
- c) A flight plan with detailed routing has to be filed.
- d) Continuous radio communication has to be established with air traffic control

**39. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 360 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) 0.5 m/s
- d) 1.5 m/s

**40. 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.

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**41. Which altitude is displayed on the altimeter when set to a specific QFE?**

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- a) Altitude in relation to mean sea level
- b) Altitude in relation to the highest elevation within 10 km
- c) Altitude in relation to the 1013.25 hPa datum
- d) Altitude in relation to the air pressure at the reference airfield

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

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

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

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

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44. 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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**45. Where does the inclination reach its lowest value?**

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- a) At the geographic equator
- b) At the magnetic poles
- c) At the magnetic equator
- d) At the geographic poles

**46. The standard state of gases refers to which temperature?**

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

**47. 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

**48. With pressure and temperature given, any gas being heavier or lighter than air depends on what?**

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- a) On the content of water vapour in the gas
- b) On the mean kinetic energy of the molecules
- c) On the number of gas molecules
- d) On the molecule mass of the gas

**49. The formation of medium to large precipitation particles requires...**

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

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

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- 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. A flight level is a...**

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- a) True altitude
- b) Density altitude.
- c) Pressure altitude.
- d) Altitude above ground.

**52. From which altitude on does the body usually react to the decreasing atmospheric pressure?**

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- a) 7000 feet
- b) 12000 feet
- c) 2000 feet
- d) 10000 feet

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

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

**54. The angle between compass north and magnetic north is called...**

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

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**55. The measurement of altitude is based on the change of the...**

---

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

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

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

**57. Urgency messages are defined as...**

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- a) Messages concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.
- b) Messages concerning urgent spare parts which are needed for a continuation of flight and which need to be ordered in advance.
- c) Messages concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- d) Information concerning the apron personell and which imply an imminent danger to landing aircraft.

**58. 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

**59. The "Certificate of Airworthiness" is issued by the state...**

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- 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.



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**60. A pilot can contact FIS (flight information service)...**

- a) Via internet
- b) Via radio communication.
- c) By a personal visit.
- d) Via telephone.

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**61. 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.

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**62. 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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**63. What process results in the formation of "advection fog"?**

- a) Warm, moist air is moved across cold ground areas
- b) Cold, moist air is being moved across warm ground areas
- c) Prolonged radiation during nights clear of clouds
- d) Cold, moist air mixes with warm, moist air

---

**64. In case of damage of the hull of a gas balloon, repairs have to be done by a certified Approved Aeronautical Workshop when exceeding a length of:**

- a) 1.0 m
- b) 2.0 m
- c) 0.5 m
- d) 5.0 m

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

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- 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

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**66. With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air?**

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- a) At the subtropical high pressure belt
- b) At the equator
- c) At the polar front
- d) At the geographic poles

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**67. 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)

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**68. What does the abbreviation "HX" stand for?**

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- a) Sunrise to sunset
- b) 24 h service
- c) Sunset to sunrise
- d) No specific opening hours

---

**69. 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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## 70. What is referred to as mountain wind?

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- a) Wind blowing uphill from the valley during daytime
- b) Wind blowing uphill from the valley during the night.
- c) Wind blowing down the mountain side during daytime
- d) Wind blowing down the mountain side during the night

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## Response Scheme

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

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