

# Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Flight Performance and Planning



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STUDENT NAME:

DATE AND TIME:

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

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

## 02. If heating is stopped and the parachute vent is not activated, a hot-air balloon reaches a final sinkrate of approximately:

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- a) 6 m/s
- b) 2 m/s
- c) 10 m/s
- d) 20 m/s

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

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

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

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

## 05. How is an air mass described when moving to Central Europe via the Russian continent during winter?

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- a) Continental polar air
- b) Continental tropical air
- c) Maritime tropical air
- d) Maritime polar air

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**06. Which weather phenomenon is typically associated with wind shear?**

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

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

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

**08. Given: TC: 183°; WCA: +011°; MH: 198°; CH: 200° What are the TH and the DEV?**

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- a) TH: 194°. DEV: +002°
- b) TH: 172°. DEV: +002°
- c) TH: 172°. DEV: -002°
- d) TH: 194°. DEV: -002°

**09. 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

**10. 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

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## 11. Wake turbulence is caused by...

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- 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

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

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

## 13. What is the minimum flight visibility in airspace "C" at and above FL 100 for an aircraft operating under VFR?

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

## 14. What action has to be taken by the pilot of a hot-air balloon in case of fire on the ground? First action is to ...

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- a) Make an emergency call via radio
- b) Leave from the area surrounding the burner
- c) Close the valves of the gas containers
- d) Engage the fire extinguishers

## 15. Changing the shape of the envelope of a free balloon, e.g. by a gust, results in:

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- a) Increase in lift
- b) Decrease in volume
- c) Increase of displaced air
- d) Decrease in weight

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**16. 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

**17. What is the approximate speed of electromagnetic wave propagation?**

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- a) 300000 m/s
- b) 123000 m/s
- c) 300000 km/s
- d) 123000 km/s

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

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

**19. 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

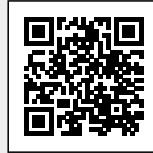
**20. At what rate does the temperature change with increasing height according to ISA (ICAO Standard Atmosphere) within the troposphere?**

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- a) Increases by 2° C / 1000 ft
- b) Decreases by 2° C / 100 m
- c) Decreases by 2° C / 1000 ft
- d) Increases by 2° C / 100 m

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**21. What has to be expected by the balloon pilot during descent in deeply cooled layers close to the ground?**

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- a) Balloon starts to climb
- b) Sudden change in airspeed
- c) Increasing descent while entering to ground layers
- d) Floating on top of the cold air layer

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

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- 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

**23. What pressure pattern can be observed when a cold front is passing?**

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- a) Continually decreasing pressure
- b) Shortly decreasing, thereafter increasing pressure
- c) Constant pressure pattern
- d) Continually increasing pressure

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

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

**25. 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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**26. What cause may result in a reduction of volume of a free balloon?**

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- a) Reduction in mass
- b) A gust
- c) Cooling of environment air
- d) Increase in hull temperature

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

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

**28. With regard to thunderstorms, strong up- and downdrafts appear during the...**

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- a) Mature stage
- b) Dissipating stage
- c) Thunderstorm stage
- d) Initial stage

**29. How do dew point and relative humidity change with decreasing temperature?**

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- 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

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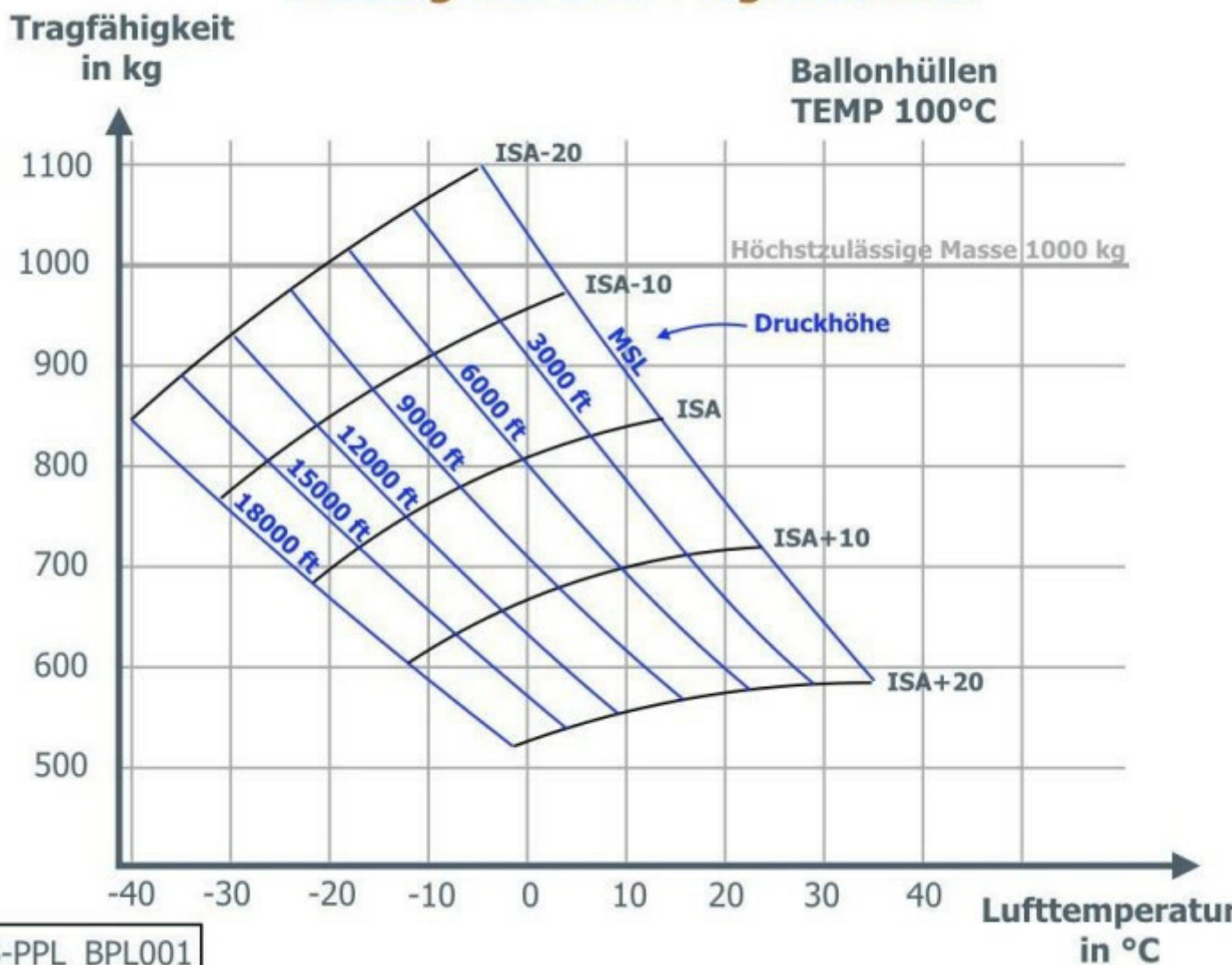
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30. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming ISA temperatures, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 9000 ft ? (use attachment ECQB-PPL\_BPL001)

## Auszug aus dem Flughandbuch



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

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**31. How often shall a blind transmission be made?**

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- a) Four times
- b) Two times
- c) Three times
- d) One time

**32. 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 Eustachian tube is blocked
- d) All windows are completely closed

**33. What is the correct way to transmit the call sign HB-YKM?**

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- a) Hotel Bravo Yuliett Kilo Mikro
- b) Home Bravo Yuliett Kilo Mike
- c) Home Bravo Yankee Kilo Mikro
- d) Hotel Bravo Yankee Kilo Mike

**34. What is the relationship between pressure and volume of a dry gas at constant temperature?**

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- a) The volume increases proportional with pressure
- b) The volume increases by a factor of 4 with double pressure
- c) The ratio between pressure and volume is constant
- d) The volume is inversely proportional to pressure

**35. 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

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**36. What is the consequence if the pressure at the burner valve is lower than 0.28 MPa (lower than 2.8 bar)?**

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- a) Take-off is prohibited
- b) The gas container should be heated by the flame
- c) The heating system may be damaged
- d) The pressure in the gas container may be increased by use of acetylene

**37. What is the purpose of the signal square at an aerodrome?**

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- a) It is a specially marked area to pick up or drop towing objects
- b) It is an illuminated area on which search and rescue and fire fighting vehicles are placed
- c) It contains special symbols to indicate the conditions at the aerodrome visually to over-flying aircraft
- d) Aircraft taxi to this square to get light signals for taxi and take-off clearance

**38. 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

**39. 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

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

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

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**41. 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

**42. 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

**43. The majority of aviation accidents are caused by...**

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- a) Human failure
- b) Technical failure
- c) Geographical influences
- d) Meteorological influences

**44. Why has a secondary ignition source be available during a ride with a hot-air balloon?**

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- a) As an emergency lighting during night
- b) To check seals of hose connections during darkness
- c) To provide light signals by a camping fire after an emergency landing
- d) To re-ignite the burner or pilot flames after flameout

**45. The term 'magnetic course' (MC) is defined as...**

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

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**46. 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

**47. A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 4 cm in the chart has been passed within 12 minutes. After how many more minutes, the overflight of another waypoint at a chart distance of additional 6 cm can be expected?**

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

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

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- 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

**49. Doubling the pressure of a dry gas at constant temperature results in a change of the volume to:**

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- a) Double the previous value
- b) Half the previous value
- c) Four times the previous value
- d) A quarter of the previous value

**50. 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

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**51. In what different ways can a risk be handled appropriately?**

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

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

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

**53. Visual illusions are mostly caused by...**

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- a) Misinterpretation of the brain
- b) Binocular vision
- c) Rapid eye movements
- d) Colour blindness

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

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

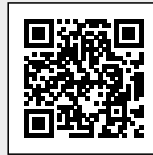
**55. A transponder with the ability to send the current pressure level is a...**

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

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**56. Regarding the communication model, how can the use of the same code during radio communication be ensured?**

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- a) By the use of proper headsets
- b) By a particular frequency allocation
- c) By the use of radio phraseology
- d) By using radios certified for aviation use only

**57. During a flight, a flight plan can be filed at the...**

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- a) Search and Rescue Service (SAR)
- b) Next airport operator en-route
- c) Flight Information Service (FIS)
- d) Aeronautical Information Service (AIS)

**58. What is an indication for a macho attitude?**

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- a) Quick resignation in complex and critical situations
- b) Comprehensive risk assessment when faced with unfamiliar situations
- c) Careful workaround procedure
- d) Risky flight maneuvers to impress spectators on ground

**59. What is meant by "inversion layer"?**

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

**60. What difference will be experienced during take-off in presence of a strong surface inversion, compared to a take-off with decreasing temperature with height?**

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- a) During climb through an inversion, less ballast must be released and/or less heating is required
- b) During climb through an inversion, less ballast must be released and/or more heating is required
- c) During climb through an inversion, more ballast must be released and/or more heating is required
- d) During climb through an inversion, more ballast must be released and/or less heating is required

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

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

**62. While overflying a waypoint, it is stated that a distance of 2 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) 12 min
- c) 180 min
- d) 90 min

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

---

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

**64. If there is any doubt about ambiguity, a time of 1620 is to be transmitted as...**

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- a) One six two zero
- b) Sixteen twenty
- c) One thousand six hundred two zero
- d) Two zero

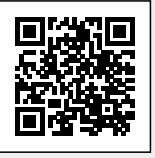
**65. What is the difference in time when the sun moves 10° of longitude?**

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- a) 0:04 h
- b) 0:40 h
- c) 0:30 h
- d) 1:00 h

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**66. A vertical speed indicator connected to a too big equalizing tank results in...**

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- a) Indication too high
- b) No indication
- c) Indication too low
- d) Mechanical overload

**67. What does the abbreviation "FIS" stand for?**

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- a) Flashing information service
- b) Flight information system
- c) Flashing information system
- d) Flight information service

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

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- 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

**69. 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

**70. 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

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## Response Scheme

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

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

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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: _____		