

Exam simulation

Quiz BPL Gas - Balloon Pilot License - Operational Procedures



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STUDENT NAME:

DATE AND TIME:

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

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

02. During a flight in colder-than-ISA air the indicated altitude is...

- a) Higher than the true altitude
- b) Equal to the standard altitude.
- c) Lower than the true altitude.
- d) Equal to the true altitude.

03. 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

04. The minimum length of the towing rope is:

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

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05. Visual illusions are mostly caused by...

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

06. What does the abbreviation "FIS" stand for?

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

07. 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

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

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

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09. (For this question, please use annex PFP-062) According ICAO, what symbol indicates a civil airport (not international airport) with paved runway? Siehe Anlage 6

- A
- B
- C
- D

PFP-062

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

10. 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

11. What is the meaning of an area marked as "TMZ"?

- a) Touring Motorglider Zone
- b) Traffic Management Zone
- c) Transponder Mandatory Zone
- d) Transportation Management Zone

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12. The force resulting from the (positive) difference from load-bearing capacity and weight force, is referred to as:

- a) Load force
- b) Upper force
- c) Climb force
- d) Lift force

13. 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

14. What factors are required for the formation of precipitation in clouds?

- a) High humidity and high temperatures
- b) The presence of an inversion layer
- c) Calm winds and intensive sunlight insolation
- d) Moderate to strong updrafts

15. A risk factor for decompression sickness is...

- a) Scuba diving prior to flight
- b) 100 % oxygen after decompression.
- c) Sports
- d) Smoking.

16. 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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17. What kind of information should be included in an urgency message?

- a) Nature of problem or observation, important information for support, departure aerodrome, information about position, heading and altitude
- b) Intended routing, important information for support, intentions of the pilot, departure aerodrome, destination aerodrome, heading and altitude
- c) Intended routing, important information for support, intentions of the pilot, information about position, departure aerodrome, heading and altitude
- d) Nature of problem or observation, important information for support, intentions of the pilot, information about position, heading and altitude

18. Under which circumstances is it more likely to accept higher risks?

- a) During check flights due to a high level of nervousness
- b) During flight planning when excellent weather is forecast
- c) Due to group-dynamic effects
- d) If there is not enough information available

19. "Foehn" conditions usually develop with...

- a) Instability, widespread air blown against a mountain ridge
- b) Stability, widespread air blown against a mountain ridge.
- c) Stability, high pressure area with calm wind.
- d) Instability, high pressure area with calm wind.

20. Information about operational limits, loading and performance about an aircraft can be taken from which document?

- a) Airworthiness certificate.
- b) Operating handbook.
- c) Certificate of registration
- d) Flight Log book.

21. The term "static pressure" is defined as pressure...

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

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22. 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%.

23. The term "aerodrome elevation" is defined as...

- a) The highest point of the landing area
- b) The average value of the height of the manoeuvring area.
- c) The highest point of the apron
- d) The lowest point of the landing area.

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

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

25. 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)

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

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

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27. 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.

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

- 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.

29. 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.

30. 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.

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

- 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

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

- 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

33. 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

34. 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

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35. 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 transponer code A 7500.
- d) Continue the ride according to last clearance; in case of imminent danger land immediately

36. 1000 ft equal...

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

37. What is the meaning of the abbreviation "SERA"?

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

38. What is the approximate speed of electromagnetic wave propagation?

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

39. Which of the stated surfaces will reduce the wind speed most due to ground friction?

- a) Flat land, lots of vegetation cover
- b) Oceanic areas
- c) Mountainous areas, vegetation cover
- d) Flat land, deserted land, no vegetation

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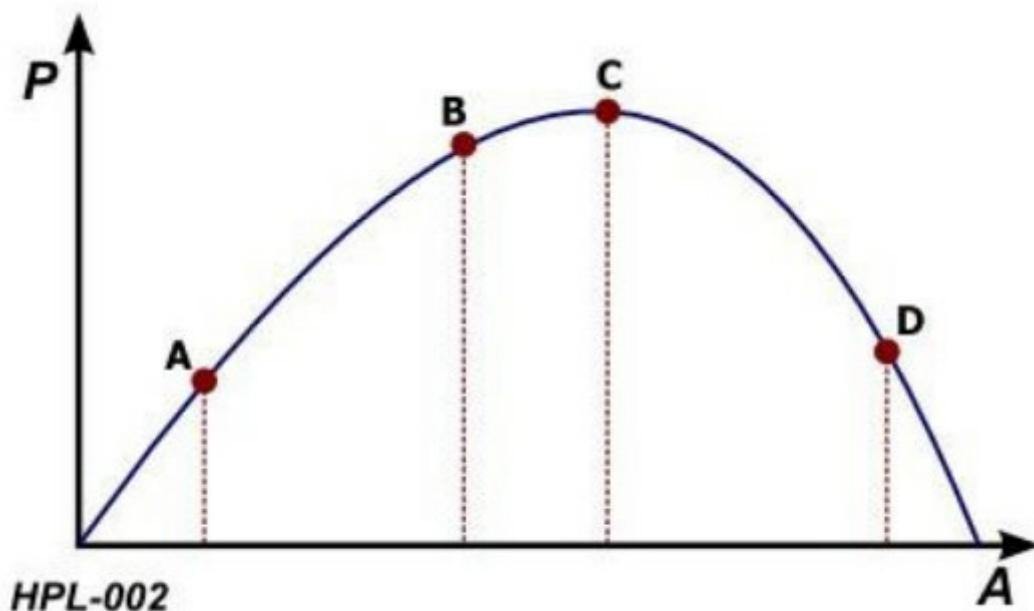
40. Aerostatic lift, amongst other factors, depends on...

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

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

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

42. The ideal level of arousal is at which point in the diagram? See figure (HPL- 002) P = Performance A = Arousal / Stress Siehe Anlage 1



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

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43. 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

44. 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

45. What is the meaning of a steady green light signal at a controlled aerodrome directed to an aircraft in flight?

- a) Airport unsafe, do not land
- b) Return for landing, followed by steady green at the appropriate time
- c) Cleared to land
- d) Give way to other aircraft and continue circling

46. Temperatures will be given by meteorological aviation services in Europe in which unit?

- a) Degrees Centigrade (° C)
- b) Degrees Fahrenheit
- c) Gpdam
- d) Kelvin

47. 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)

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

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48. In a given height, a given amount of ballast is unloaded from a gas balloon. How is the increase in height at 5500m different from the increase in height at MSL by unloading the same amount of ballast?

- a) At 5500m the increase in height is twice as high.
- b) At 5500m the increase in height is three times as high.
- c) At both heights the same increase in height is observed.
- d) At 5500m the increase in height is four times as high.

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

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

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

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

51. How will the sag of the pull rope change during descent?

- a) It will remain unchanged
- b) It will increase
- c) It will change periodically
- d) It will decrease

52. With Central European Time (CET) given as UTC+1, what UTC time corresponds to 1700 CET?

- a) 1600 UTC
- b) 1800 UTC.
- c) 1500 UTC.
- d) 1700 UTC.

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53. What cloud sequence can typically be observed during the passage of a warm front?

- a) Squall line with showers of rain and thunderstorms (Cb), 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

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

- 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.

55. What situation may result in the occurrence of severe wind shear?

- a) When a shower is visible close to the airfield
- b) Cross-country flying below Cu clouds with about 4 octas coverage
- c) During final approach, 30 min after a heavy shower has passed the airfield
- d) Flying ahead of a warm front with visible Ci clouds

56. What values are usually marked with a red line on instrument displays?

- a) Operational limits
- b) Caution areas
- c) Recommended areas
- d) Operational areas

57. 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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58. 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

59. (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

60. 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°

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61. In what case is visibility transmitted in meters?

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

62. 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

63. 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

64. 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

65. Wake turbulence is particularly strong...

- a) When flying at high speeds.
- b) When flying at high altitudes.
- c) When flying at low speeds
- d) When flying at low altitudes.

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66. The barometric altimeter with QNH setting indicates...

- 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.

67. 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.

68. Which factor can lead to human error?

- a) Double check of relevant actions
- b) To be doubtful if something looks unclear or ambiguous
- c) The bias to see what we expect to see
- d) Proper use of checklists

69. 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 %

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

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

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Response Scheme

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

01: **C**

02: **A**

03: **A**

04: **D**

05: **A**

06: **D**

07: **C**

08: **A**

09: **D**

10: **A**

11: **C**

12: **C**

13: **C**

14: **D**

15: **A**

16: **D**

17: **D**

18: **C**

19: **B**

20: **B**

21: **D**

22: **B**

23: **A**

24: **C**

25: **A**

26: **D**

27: **A**

28: **A**

29: **C**

30: **A**

31: **C**

32: **B**

33: **D**

34: **D**

35: **D**

36: **B**

37: **D**

38: **C**

39: **C**

40: **D**

41: **D**

42: **D**

43: **B**

44: **D**

45: **C**

46: **A**

47: **D**

48: **A**

49: **B**

50: **D**

51: **D**

52: **A**

53: **C**

54: **C**

55: **A**

56: **A**

57: **B**

58: **D**

59: **A**

60: **B**

61: **D**

62: **A**

63: **A**

64: **A**

65: **C**

66: **D**

67: **B**

68: **C**

69: **D**

70: **A**

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Response form

Use this form to mark your answers

01: _____

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