

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Principles of Flight (Balloon)



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STUDENT NAME:

DATE AND TIME:

01. Measured pressure distribution in MSL and corresponding frontal systems are displayed by the...

- a) Significant Weather Chart (SWC)
- b) Prognostic chart
- c) Surface weather chart
- d) Hypsometric chart

02. What is the status of the rules and procedures created by the EASA? (e.g. Part-SFCL, Part-MED)

- a) They have the same status as ICAO Annexes
- b) They are not legally binding, they only serve as a guide
- c) They are part of the EU regulation and legally binding to all EU member states
- d) Only after a ratification by individual EU member states they are legally binding

03. 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

04. Which are the properties of a Mercator chart?

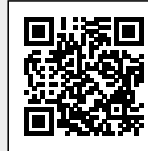
- a) The scale increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- b) The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- c) The scale increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- d) The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines

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

- 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

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06. What effect has an increase in air temperature inside the hull of a hot air balloon by a given difference in temperature?

- a) The increase in load carrying capacity increases with height
- b) The increase in load carrying capacity decreases with height
- c) The increase in rate of climb increases with height
- d) The reduction in sink rate increases with height

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

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

08. Which of the following messages has the highest priority?

- a) Turn left
- b) Request QDM
- c) QNH 1013
- d) Wind 300 degrees, 5 knots

09. Which of the following statements is correct?

- a) The density of hull air is lower with decreasing environmental pressure
- b) The density of hull air is higher with increasing environmental pressure
- c) The density of hull air is lower than environmental air only if the hull temperature is lower than environmental temperature
- d) The density of hull air is lower than environmental air only if the hull temperature is higher than environmental temperature

10. The measurement of altitude is based on the change of the...

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

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11. What condition may prevent the formation of "radiation fog"?

- a) Overcast cloud cover
- b) Clear night, no clouds
- c) Low spread
- d) Calm wind

12. 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

13. Which parts of a hot-air balloon provide protection for the basket during landing?

- a) Wheels
- b) Rubber pads
- c) Wearing strips
- d) Steel runners

14. The vapour pressure of propane gas in a bottle depends in particular on:

- a) The rigidity of the bottle
- b) The size of the bottle
- c) The temperature
- d) The gas amount

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

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

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16. 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

17. Which force causes "wind"?

- a) Thermal force
- b) Pressure gradient force
- c) Coriolis force
- d) Centrifugal force

18. 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

19. What is the correct way of using the aircraft call sign at first contact?

- a) Using the last two characters only
- b) Using all characters
- c) Using the first two characters only
- d) Using the first three characters only

20. 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

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21. What is the correct way of acknowledging "You are now entering airspace Delta"?

- a) Entering
- b) Airspace Delta
- c) Wilco
- d) Roger

22. Moderate to severe turbulence has to be expected...

- a) On the lee side of a mountain range when rotor clouds are present
- b) Below thick cloud layers on the windward side of a mountain range
- c) With the appearance of extended low stratus clouds (high fog)
- d) Overhead unbroken cloud layers

23. What is the percentage of nitrogen in the atmosphere?

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

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

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

25. 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

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26. 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

27. The main burner is fed by which phase?

- a) By the low-pressure phase
- b) By the gas phase
- c) By the plasma phase
- d) By the liquid phase

28. 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?

- 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

29. 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

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

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

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31. Which transponder code should be set during a radio failure without any request?

- a) 7000
- b) 7500
- c) 7700
- d) 7600

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

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

33. During a flight in an air mass with a temperature equal to ISA and the QNH set correctly, the indicated altitude is...

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

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

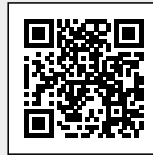
- a) Oxygen transport
- b) Immune defense
- c) Blood sugar regulation
- d) Blood coagulation

35. Which area could be crossed with certain restrictions?

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

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36. 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

37. 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

38. 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

39. At high altitude, the complete heating system of a hot-air balloon fails. What maximum rate of descent has to be expected upon reaching ground?

- a) Approximately 2.5 m/s
- b) Approximately 4.5 m/s
- c) Approximately 6.5 m/s
- d) Approximately 2.5 m/s

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

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

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41. A flight is called a "visual flight", if the...

- a) Flight is conducted in visual meteorological conditions
- b) Visibility in flight is more than 8 km
- c) Flight is conducted under visual flight rules
- d) Visibility in flight is more than 5 km

42. 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

43. The parapet height of a hot-air balloon basket is at least:

- a) 100 cm, in commercial operation 110 cm
- b) 80 cm, in commercial operation 100 cm
- c) 120 cm, in commercial operation 130 cm
- d) 110 cm, in commercial operation 110 cm

44. Where are the two polar circles?

- a) 23.5° north and south of the poles
- b) 23.5° north and south of the equator
- c) At a latitude of 20.5°S and 20.5°N
- d) 20.5° south of the poles

45. Where does the inclination reach its lowest value?

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

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46. Under which conditions, no hazards should be expected for a balloon ride?

- a) With high pressure areas before sunset
- b) Close to showers or thunderstorms
- c) With a warm front approaching
- d) With a cold front approaching

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

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

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

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

49. 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

50. QFE is the...

- a) Magnetic bearing to a station
- b) Barometric pressure at a reference datum, typically the runway threshold of an airfield
- c) Barometric pressure adjusted to sea level, using the international standard atmosphere (ISA)
- d) Altitude above the reference pressure level 1013.25 hPa

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

- 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

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

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

53. The hull fabric of a hot-air balloon undergoes the most continuous thermal stress in which area?

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

54. Which of the following options states a correct position report?

- a) DEABC over "N" in FL 2500 ft
- b) DEABC over "N" at 35
- c) DEABC, "N", 2500 ft
- d) DEABC reaching "N"

55. 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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56. The standard state of gases refers to which temperature?

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

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

- 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

58. 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?

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

59. What has to be expected when diving into an inversion layer from above?

- a) Rate of descent increases
- b) Rate of descent decreases
- c) Sudden drop onto the ground
- d) Uncontrollable oscillation of the basket

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

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

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61. The correct transponder code for emergencies is...

- a) 7500
- b) 7600
- c) 7000
- d) 7700

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

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

63. Which stage of a thunderstorm is dominated by updrafts?

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

64. What is the correct way of establishing radio communication between D-EAZF and Dusseldorf Tower?

- a) Dusseldorf Tower over
- b) DEAZF is calling Dusseldorf Tower
- c) Tower from D-EAZF
- d) Dusseldorf Tower D-EAZF

65. What has to be considered before touchdown of a hot-air balloon during landing?

- a) Inform the followers
- b) Note the time
- c) Cut off gas feed to the ignition flames
- d) Turn off the radio

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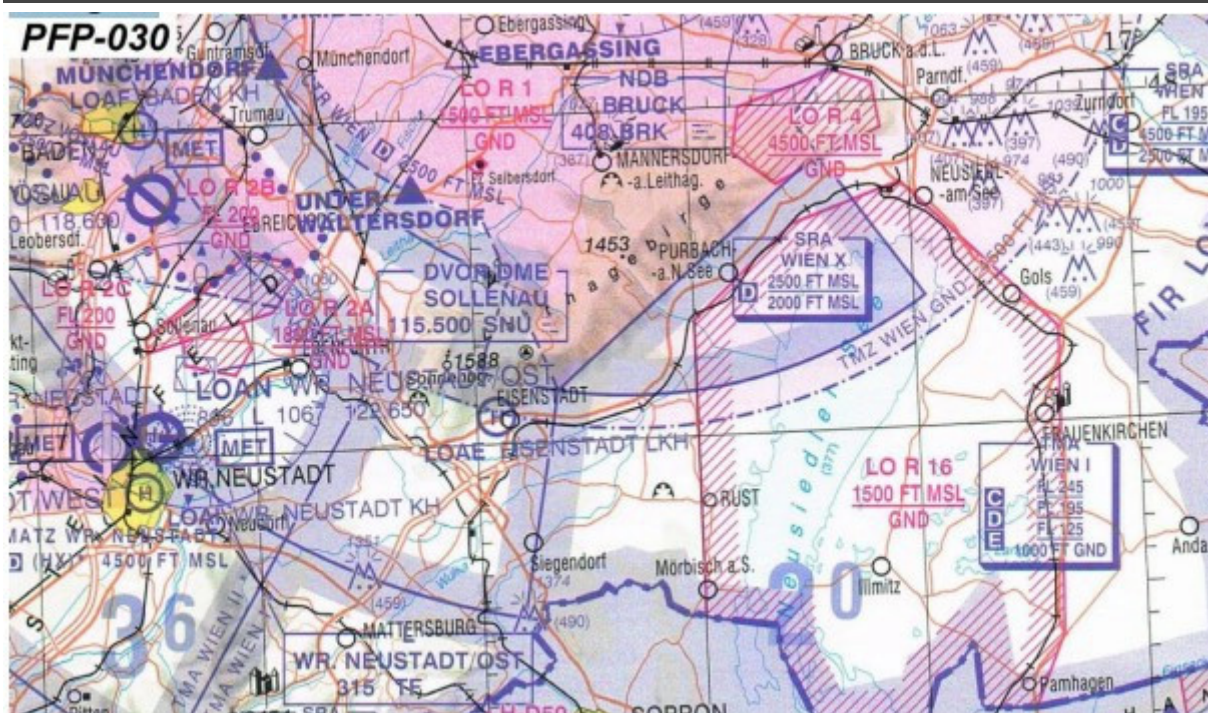


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66. Electronic devices on board of an aeroplane have influence on the...

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

67. The upper limit of LO R 4 equals... See annex (PFP-030)



- a) 1500 ft MSL
- b) 1500 ft AGL
- c) 4500 ft MSL
- d) 4500 ft AGL

68. How do volume, density and temperature change when a gas is being compressed?

- a) Volume decreases, density decreases, temperature decreases
- b) Volume decreases, density increases, temperature increases
- c) Volume decreases, density increases, temperature increases
- d) Volume increases, density decreases, temperature decreases

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69. How can wind speed and wind direction be derived from surface weather charts?

- a) By annotations from the text part of the chart
- b) By alignment of lines of warm- and cold fronts
- c) By alignment and distance of isobaric lines
- d) By alignment and distance of hypsometric lines

70. The aerostatic lift corresponds to which force?

- 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

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Response Scheme

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

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

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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: _____		