

Exam simulation

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



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STUDENT NAME:

DATE AND TIME:

01. The "swiss cheese model" can be used to explain the...

- a) Optimal problem solution
- b) State of readiness of a pilot
- c) Procedure for an emergency landing
- d) Error chain

02. How often shall a blind transmission be made?

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

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

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

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

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

05. Which of the following statements is correct?

- 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

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06. A pilot license issued in accordance with ICAO Annex 1 is valid in...

- a) The country where the license was acquired
- b) All ICAO countries
- c) The country where the license was issued
- d) Those countries that have accepted this license on application

07. What weather conditions may be expected during conditionally unstable conditions?

- a) Towering cumulus, isolated showers of rain or thunderstorms
- b) Layered clouds up to high levels, prolonged rain or snow
- c) Shallow cumulus clouds with base at medium levels
- d) Sky clear of clouds, sunshine, low winds

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

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

09. 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

10. Which information from a ground station does not require readback?

- a) SSR-Code
- b) Wind
- c) Altitude
- d) Runway in use

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11. 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

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

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

13. 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

14. Why should a liquid gas bottle only be filled to 80% of its volume?

- a) Because temperature would get too high
- b) Because it would get too heavy otherwise
- c) To provide space for temperature-induced expansion
- d) To provide space for expansion in case of external cooling

15. 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

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16. What is the meaning of the phrase "Correction"?

- a) Permission for proposed action is granted
- b) An error has been made in this transmission. The correct version is...
- c) I have received all of your last transmission
- d) I understand your message and will comply with it

17. 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

18. What is an indication for a macho attitude?

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

19. 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 ...

- 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

20. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL110?

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

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21. Which phrase is used by a pilot when he wants to fly through controlled airspace?

- a) Apply
- b) Want
- c) Request
- d) Would like

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

- a) VAR: 004° E. DEV: -002°
- b) VAR: 004° W. DEV: +002°
- c) VAR: 004° E. DEV: +002°
- d) VAR: 004° W. DEV: -002°

23. A vertical speed indicator measures the difference between...

- a) Instantaneous static pressure and previous static pressure
- b) Dynamic pressure and total pressure
- c) Total pressure and static pressure
- d) Instantaneous total pressure and previous total pressure

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

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

25. Carbon monoxide poisoning can be caused by...

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

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26. 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

27. In what case is the pilot allowed to abbreviate the call sign of his aircraft?

- a) After the ground station has used the abbreviation
- b) Within controlled airspace
- c) If there is little traffic in the traffic circuit
- d) After passing the first reporting point

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

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

29. The term "ceiling" is defined as the...

- 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

30. The altimeter is switched from local QNH to 1013.25 hPa...

- a) When climbing above the transition altitude
- b) At 4000 ft
- c) At the decision height
- d) When descending below FL 100

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

- 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

32. 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

33. The majority of aviation accidents are caused by...

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

34. Which transponder code has to be set unrequested during an emergency?

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

35. Visual illusions are mostly caused by...

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

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36. A heading of 285 degrees is correctly transmitted as...

- a) Two hundred eighty-five
- b) Two eight five
- c) Two eight five hundred
- d) Two hundred eight five

37. What cause may result in a reduction of volume of a free balloon?

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

38. What wind is reported as 225/15 ?

- a) North-east wind with 15 km/h
- b) South-west wind with 15 km/h
- c) South-west wind with 15 kt
- d) North-east wind with 15 kt

39. 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

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

- 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

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

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

42. What may be the consequence, if gas containers of a hot-air balloon are refilled at temperatures below 0 °C by volume (80%)?

- a) Too low pressure at high temperatures
- b) Less burner power at high temperatures
- c) Smaller volume in the container at high temperatures
- d) Overfilling of the gas container

43. 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 decreases
- d) Volume increases, density decreases, temperature decreases

44. 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

45. Distress messages contain...

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

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

- 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

47. What is the purpose of "interception lines" in visual navigation?

- 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

48. What does the abbreviation "FIR" stand for?

- a) Flight integrity receiver
- b) Flow integrity required
- c) Flow information radar
- d) Flight information region

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

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

50. 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

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51. The angle between compass north and magnetic north is called...

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

52. What information is provided in the general part (GEN) of the AIP?

- a) Warnings for aviation, ATS airspaces and routes, restricted and dangerous airspaces
- b) Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees
- c) Table of content, classification of airfields with corresponding maps, approach charts, taxi charts, restricted and dangerous airspaces
- d) Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods

53. 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

54. An ATIS is valid for...

- a) 45 minutes
- b) 30 minutes
- c) 60 minutes
- d) 10 minutes

55. The hull load of a hot-air balloon is carried by ...

- a) By the towing ropes
- b) By the top ropes
- c) The carrying ropes
- d) The fixing ropes

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56. 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

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

- 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

58. When using a GPS for tracking to the next waypoint, a deviation indication is shown by a vertical bar and dots to the left and to the right of the bar. What statement describes the correct interpretation of the display?

- a) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection is ± 10 NM
- b) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS
- c) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection is $\pm 10^\circ$
- d) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection depends on the operating mode of the GPS

59. The distance between two airports is 220 NM. On an aeronautical navigation chart the pilot measures 40.7 cm for this distance. The chart scale is...

- a) 1 : 2000000
- b) 1 : 1000000
- c) 1 : 500000
- d) 1 : 250000

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60. 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

61. 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

62. 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

63. The term "tropopause" is defined as...

- a) The layer above the troposphere showing an increasing temperature
- b) The height above which the temperature starts to decrease
- c) The boundary area between the mesosphere and the stratosphere
- d) The boundary area between the troposphere and the stratosphere

64. What is meant by "isothermal layer"?

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

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65. Which of the following symptoms may indicate hypoxia?

- 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

66. 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

67. 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°

68. The average decrease of blood alcohol level for an adult in one hour is approximately...

- a) 0.3 percent
- b) 0.03 percent
- c) 0.01 percent
- d) 0.1 percent

69. 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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70. Wake turbulence is particularly strong...

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

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Response Scheme

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

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