

Exam simulation

BPL Hot Air - Balloon Pilot License - Operational Procedures



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STUDENT NAME:

DATE AND TIME:

01. What phenomenon is caused by cold air downdrafts with precipitation from a fully developed thunderstorm cloud?

- a) Freezing rain
- b) Gust front
- c) Electrical discharge
- d) Anvil-head top of Cb cloud

02. What frontal line divides subtropical air from polar cold air, in particular across Central Europe?

- a) Polar front
- b) Warm front
- c) Cold front
- d) Occlusion

03. 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

04. The saturated adiabatic lapse rate is...

- a) Proportional to the dry adiabatic lapse rate
- b) Higher than the dry adiabatic lapse rate
- c) Lower than the dry adiabatic lapse rate
- d) Equal to the dry adiabatic lapse rate

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

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

06. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125?

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

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

- 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° 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° to the plane of the equator

08. The ratio between air pressures at different heights is referred to as:

- a) Pressure number
- b) Height value
- c) Height ratio
- d) Height number

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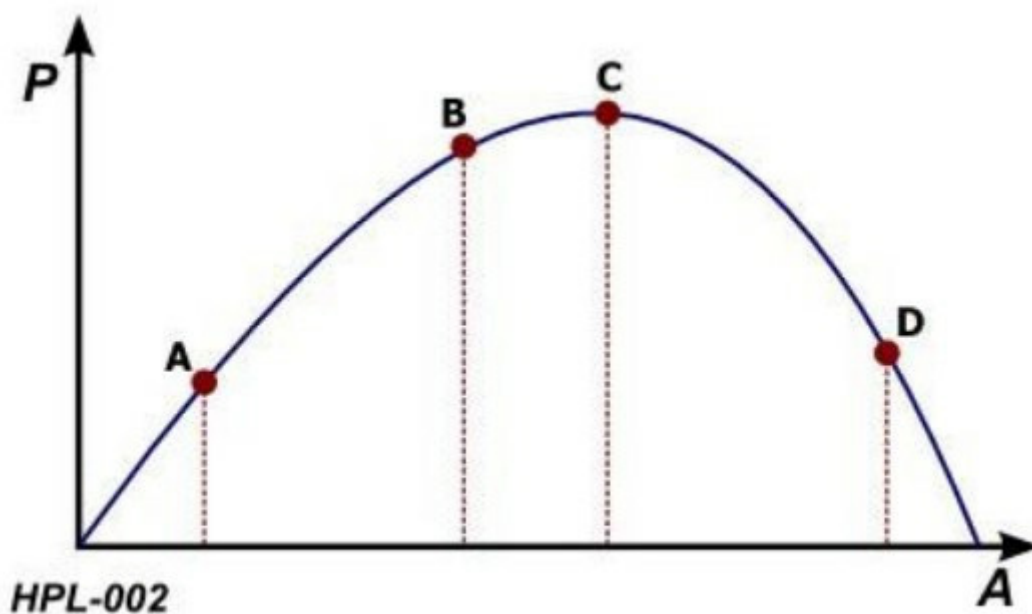


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09. A distance of 7.5 cm on an aeronautical chart represents a distance of 60.745 NM in reality. What is the chart scale?

- a) 1 : 500000
- b) 1 : 1500000
- c) 1 : 1000000
- d) 1 : 150000

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



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

11. 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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12. What is the call sign of the aerodrome control?

- a) Ground
- b) Tower
- c) Airfield
- d) Control

13. On summer days with calm winds, the balloon pilot has to expect:

- a) With a cold air pool on the ground
- b) With wind shear
- c) With strongly heated surface layers
- d) With a pronounced ground inversion

14. Which conditions are likely for the formation of advection fog?

- a) Cold, humid air moves over a warm ocean
- b) Humidity evaporates from warm, humid ground into cold air
- c) Warm, humid air cools during a cloudy night
- d) Warm, humid air moves over a cold surface

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



PFP-061

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

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

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

17. Heavy downdrafts and strong wind shear close to the ground can be expected...

- a) During approach to an airfield at the coast with a strong sea breeze
- b) During cold, clear nights with the formation of radiation fog
- c) During warm summer days with high, flattened Cu clouds
- d) Near the rainfall areas of heavy showers or thunderstorms

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18. 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

19. 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

20. How may passengers assist the balloon pilot during landing preparation?

- a) By activating the emergency opening
- b) By activating the vents
- c) By stowing of loose parts
- d) By activating the pull rope

21. 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

22. A flight level is a...

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

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

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

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

- A 
- B 
- C 
- D 

PFP-062

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

25. What has to be considered when entering an RMZ?

- a) To obtain a clearance to enter this area
- b) The transponder has to be switched on Mode C and squawk 7000
- c) To permanently monitor the radio and if possible to establish radio contact
- d) To obtain a clearance from the local aviation authority

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26. During a flight, a flight plan can be filed at the...

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

27. 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

28. Which of the following options are possible SSR-Transponder modes?

- a) B, R, S
- b) A, C, S
- c) A, C, R
- d) B, C, V

29. 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

30. Which validity does the "Certificate of Airworthiness" have?

- a) 12 years
- b) 12 months
- c) Unlimited
- d) 6 months

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

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

32. After take-off with a balloon, obstacles at a distance of 600 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?

- a) 1 m/s
- b) 3 m/s
- c) 5 m/s
- d) 10 m/s

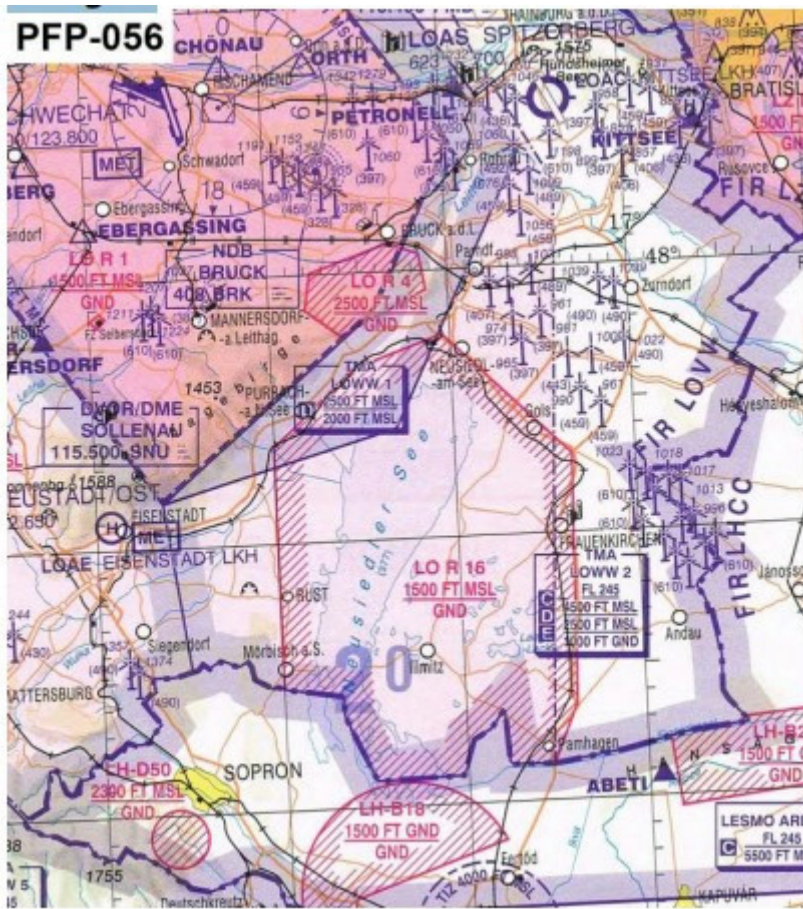
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33. The upper limit of LO R 16 equals... See annex (PFP-056)



- a) FL150
- b) 1500 ft GND
- c) 1500 ft MSL
- d) 1500 m MSL

34. What is the correct way of acknowledging the instruction "Squawk 4321, Call Bremen Radar on 131.325"?

- a) Roger
- b) Squawk 4321, wilco
- c) Squawk 4321, 131.325
- d) Wilco

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

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

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

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

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

- a) The lower the elevation, the lower the maximum take-off mass
- b) The lower the elevation, the greater the carrying force
- c) The lower the elevation, the higher the maximum take-off mass
- d) The higher the elevation, the greater the carrying force

38. 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

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. 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

41. In which situation is it NOT possible to achieve a pressure compensation between the middle ear and the environment?

- 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

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

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

43. 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

44. 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

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45. 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

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

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

47. How do spread and relative humidity change with increasing temperature?

- a) Spread increases, relative humidity increases
- b) Spread remains constant, relative humidity increases
- c) Spread remains constant, relative humidity decreases
- d) Spread increases, relative humidity decreases

48. Wake turbulence is caused by...

- 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

49. Which of the gases stated below is NOT made up from hydrocarbons?

- a) Propane
- b) Butane
- c) Methane
- d) Hydrogen

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50. What has to be considered at moderate wind speeds during a balloon ride across mountainous area with cloud-free sky?

- a) Decreasing burner power
- b) Altimeter indication too low
- c) Icing conditions
- d) Lee waves and severe up- and downdrafts

51. The term 'civil twilight' is defined as...

- a) The period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the true horizon
- b) The period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the apparent horizon
- c) The period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the true horizon
- d) The period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the apparent horizon

52. 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°

53. 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

54. 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

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55. In which situations should a pilot use blind transmissions?

- a) When a transmission containing important navigational or technical information is to be sent to several stations at the same time
- b) When a pilot has flown into cloud or fog unintentionally and therefore would like to request navigational assistance from a ground unit
- c) When no radio communication can be established with the appropriate aeronautical station, but when evidence exists that transmissions are received at that ground unit
- d) When the traffic situation at an airport allows the transmission of information which does not need to be acknowledged by the ground station

56. 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

57. An inversion layer close to the ground can be caused by...

- a) Ground cooling during the night
- b) Large-scale lifting of air
- c) Thickening of clouds in medium layers
- d) Intensifying and gusting winds

58. The saturated adiabatic lapse rate should be assumed with a mean value of:

- a) 2° C / 1000 ft
- b) 1.0° C / 100 m
- c) 0.6° C / 100 m
- d) 0° C / 100 m

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

- 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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60. Which force causes "wind"?

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

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

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

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

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

63. The hull of a hot-air balloon is made up by which material?

- a) Synthetic fabric
- b) Silk fabric
- c) Linen fabric
- d) Cotton fabric

64. What is the ISA standard pressure at FL 180 (5500 m)?

- a) 500 hPa
- b) 1013.25 hPa
- c) 300 hPa
- d) 250 hPa

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65. 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

66. What is the correct phrase to begin a blind transmission?

- a) Transmitting blind
- b) No reception
- c) Listen
- d) Blind

67. A wind shear is...

- a) A meteorological downslope wind phenomenon in the Alps
- b) A wind speed change of more than 15 kt
- c) A vertical or horizontal change of wind speed and wind direction
- d) A slow increase of the wind speed in altitudes above 13000 ft

68. 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

69. 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

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70. Liquefaction of propane gas results in a reduction in volume to what fraction of the gas volume?

- a) 1/160
- b) 1/260
- c) 1/360
- d) 1/60

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Response Scheme

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

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

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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: _____		