

Exam simulation

Exam BPL Gas - Balloon Pilot License - Meteorology



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STUDENT NAME:

DATE AND TIME:

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

- a) Measuring the present static air pressure and comparing it to the static air pressure inside a reservoir
- b) Static air pressure is measured and compared against a vacuum
- c) Measuring the vertical acceleration through the displacement of a gimbal-mounted mass
- d) Total air pressure is measured and compared to static pressure

02. According ISA, what is the density of air at MSL?

- a) 1.225 g/m³
- b) 1225 kg/m³
- c) 1.225 kg/m³
- d) 12.25 kg/m³

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03. Up to which altitude is an overflight prohibited according to the NOTAM? See figure (PPF-024)

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

04. 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

05. Mountain side updrafts can be intensified by ...

- a) Solar irradiation on the lee side
- b) Thermal radiation of the windward side during the night
- c) Solar irradiation on the windward side
- d) Warming of upper atmospheric layers

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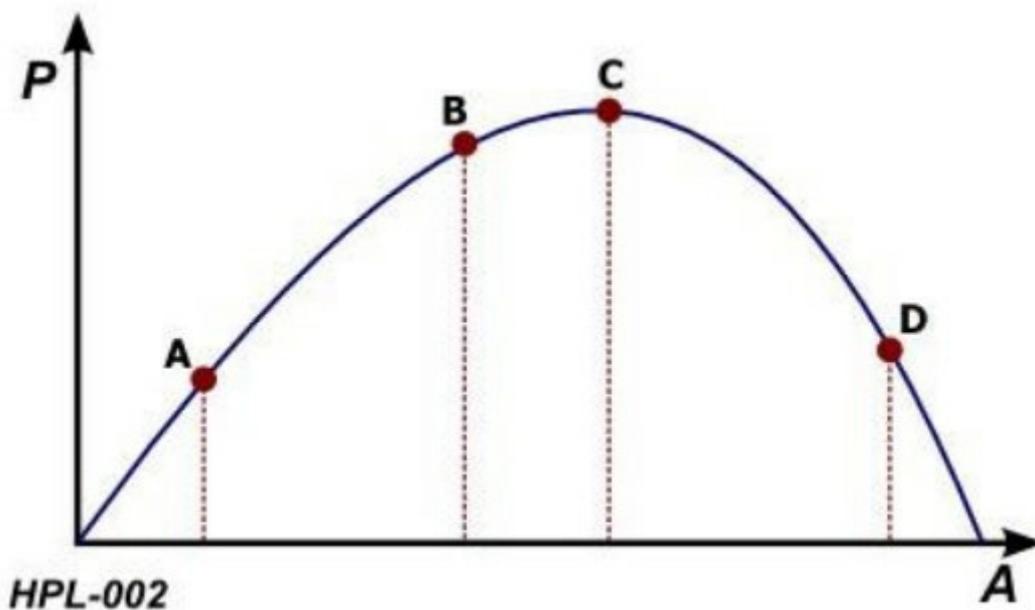


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06. What change results from an increase in temperature of the carrying gas and of the environmental air at a gas balloon at maximum differential pressure?

- a) The load capability decreases by 4% per K temperature change
- b) The load capability increases by 4% per K temperature change
- c) The load capability increases by 0.4% per K temperature change
- d) The load capability decreases by 0.4% per K temperature change

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



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

08. 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

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09. What is the great circle distance between two points A and B on the equator when the difference between the two associated meridians is exactly one degree of longitude?

- a) 60 NM
- b) 216 NM
- c) 400 NM
- d) 120 NM

10. What is the purpose of the semi-circular rule?

- a) To avoid collisions by suspending turning manoeuvres
- b) To fly without a filed flight plan in prescribed zones published in the AIP
- c) To avoid collisions by reducing the probability of opposing traffic at the same altitude
- d) To allow safe climbing or descending in a holding pattern

11. 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

12. 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

13. 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

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14. What does a cloud coverage of "BKN" mean in a METAR weather report?

- a) 5 to 7 eighths
- b) 1 to 2 eighths
- c) 8 eighths
- d) 3 to 4 eighths

15. 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

16. A true altitude is...

- a) A height above ground level corrected for non-standard pressure
- b) An altitude above mean sea level corrected for non-standard temperature
- c) A height above ground level corrected for non-standard temperature
- d) A pressure altitude corrected for non-standard temperature

17. 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

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

- 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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19. What must be considered for cross-border flights?

- a) Transmission of hazard reports
- b) Approved exceptions
- c) Regular location messages
- d) Requires flight plans

20. 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

21. 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"

22. 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

23. 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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24. Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts?

- a) Wind chart
- b) Hypsometric chart
- c) Prognostic chart
- d) Surface weather chart

25. 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

26. What is the purpose of the closing rope of a gas balloon?

- a) To close the sand disposer
- b) To close the appendix
- c) To close the emergency opening
- d) To secure the towing rope

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

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

28. The character of an air mass is given by what properties?

- a) Wind speed and tropopause height
- b) Environmental lapse rate at origin
- c) Temperatures at origin and present region
- d) Region of origin and track during movement

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29. 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 next best chance for landing
- c) Use GPS or radio navigation to continue ride in clouds
- d) Break through the clouds and continue above clouds

30. 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

31. 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

32. What weather phenomena have to be expected around an upper-level trough?

- a) Formation of high stratus clouds, ground-covering cloud bases
- b) Calm weather, formation of lifted fog layers
- c) Development of showers and thunderstorms (Cb)
- d) Calm wind, forming of shallow cumulus clouds

33. 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

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34. 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

35. 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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36. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming temperature ISA+10, 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 12.000 ft ? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



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

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

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

38. The minimum length of the towing rope is:

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

39. 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

40. 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

41. What technical measure provides electric conductivity to the hull ropes of a web-less gas balloon?

- a) Wrapping with plastic tape
- b) A surface painting
- c) Impregnation of the ropes
- d) Embedded steel threads (filaments)

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42. What is the mass of a "cube of air" with the edges 1 m long, at MSL according ISA?

- a) 0.1225 kg
- b) 12.25 kg
- c) 0.01225 kg
- d) 1.225 kg

43. 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

44. 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

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

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

46. 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

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47. 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

48. 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°

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

- a) Avoid, reduce, delay, accept
- b) Detect, report, monitor, ignore
- c) Accept, continue, improvise, review
- d) Avoid, reduce, transfer, accept

50. 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

51. 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

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52. On summerdays with calm winds, the balloon pilot has to expect:

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

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

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

54. From which altitude on does the body usually react to the decreasing atmospheric pressure?

- a) 7000 feet
- b) 12000 feet
- c) 2000 feet
- d) 10000 feet

55. 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

56. What ground features should preferably be used for orientation during visual flight?

- a) Power lines
- b) Rivers, railroads, highways
- c) Border lines
- d) Farm tracks and creeks

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57. 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

58. The shortest distance between two points on Earth is represented by a part of...

- a) A small circle
- b) A great circle
- c) A rhumb line
- d) A parallel of latitude

59. 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

60. 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

61. 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%

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

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

63. The rotational axis of the Earth runs through the...

- a) Geographic North Pole and on the geographic South Pole
- b) Magnetic north pole and on the magnetic south pole
- c) Geographic North Pole and on the magnetic south pole
- d) Magnetic north pole and on the geographic South Pole

64. What is the distance between the parallels of latitude 48°N and 49°N along a meridian line?

- a) 10 NM
- b) 111 NM
- c) 60 NM
- d) 1 NM

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

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

66. What does a readability of 1 indicate?

- a) The transmission is perfectly readable
- b) The transmission is readable now and then
- c) The transmission is readable but with difficulty
- d) The transmission is unreadable

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67. What weather conditions can be expected during "Foehn" on the windward side of a mountain range?

- a) Layered clouds, mountains obscured, poor visibility, moderate or heavy rain
- b) Scattered cumulus clouds with showers and thunderstorms
- c) Calm wind and forming of high stratus clouds (high fog)
- d) Dissipating clouds with unusual warming, accompanied by strong, gusty winds

68. 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°

69. Which instrument can be affected by the hysteresis error?

- a) Tachometer
- b) Altimeter
- c) Vertical speed indicator
- d) Direct reading compass

70. What is the meaning of the abbreviation "AIREP"?

- a) Aeronautical instrument requirement report
- b) Aircraft report
- c) Automatic identification report
- d) Aeronautical information report

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Response Scheme

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

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