

Exam simulation

Quiz BPL Gas - Balloon Pilot License - Meteorology



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STUDENT NAME:

DATE AND TIME:

01. 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

02. 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

03. Regularity 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) Sent by an aircraft operating agency or an aircraft of immediate concern to an aircraft in flight
- d) Concerning the operation or maintenance of facilities essential for the safety or regularity of aircraft operation

04. 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

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05. 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

06. When do you expect wind shear?

- a) During an inversion
- b) During a summer day with calm winds
- c) In calm wind in cold weather
- d) When passing a warm front

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. 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

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

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

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10. 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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11. Given the following masses: Empty mass 240 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg U which pressure altitude can the balloon climb with 5 persons and 4 gas containers in the basket, assuming temperatures below ISA? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



- a) 3000 ft
- b) 17000 ft
- c) 13000 ft
- d) 7000 ft

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12. 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

13. 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

14. 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

15. 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

16. Which characteristic is important when choosing sunglasses used by pilots?

- a) Curved sidepiece
- b) Unbreakable
- c) No UV filter
- d) Non-polarised

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17. Which are the official basic units for horizontal distances used in aeronautical navigation and their abbreviations?

- a) Feet (ft), inches (in)
- b) Yards (yd), meters (m)
- c) Nautical miles (NM), kilometers (km)
- d) Land miles (SM), sea miles (NM)

18. Which altitude is displayed on the altimeter when set to a specific QNH?

- a) Altitude in relation to the 1013.25 hPa datum
- b) Altitude in relation to the highest elevation within 10 km
- c) Altitude in relation to mean sea level
- d) Altitude in relation to the air pressure at the reference airfield

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

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

20. At which altitude is the atmospheric pressure approximately half the MSL value (1013 hPa)?

- a) 5000 ft
- b) 18000 ft
- c) 22000 ft
- d) 10000 ft

21. What statement is correct with regard to the density of a gas?

- a) The density increases with increasing temperature and constant volume
- b) The density decreases with increasing temperature and constant volume
- c) The density decreases with increasing temperature and constant pressure
- d) The density decreases with decreasing volume and constant temperature

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22. Which abbreviation is used for the term "obstacle"?

- a) OBS
- b) OBST
- c) OBTC
- d) OST

23. Wake turbulence is caused by...

- a) Wind shear at the wingtip of an aerofoil
- b) Jet blast behind a turbine engine
- c) Turbulence at the downwind side of a mountain range
- d) Pressure compensation at the wingtip of an aerofoil

24. Damages at the basket ropes have to be fixed by:

- a) By the balloon pilot
- b) Upon the next Aeronautical Recurrence Certification
- c) By an Approved Aeronautical Workshop
- d) By tying with a part of a spare rope (during cruise)

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

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

26. Which dangerous attitudes are often combined?

- a) Impulsivity and carefulness
- b) Macho and invulnerability
- c) Self-abandonment and macho
- d) Invulnerability and self-abandonment

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27. 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

28. On what frequency shall a blind transmission be made?

- a) On a tower frequency
- b) On a radar frequency of the lower airspace
- c) On the appropriate FIS frequency
- d) On the current frequency

29. Lower-than-standard temperature may lead to...

- a) An altitude indication which is too high
- b) A correct altitude indication as long as the altimeter subscale is set to correct for non-standard temperature
- c) An altitude indication which is too low
- d) A blockage of the Pitot tube by ice, freezing the altimeter indication to its present value

30. 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

31. 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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32. Which of the following documents have to be on board for an international flight? a) Certificate of aircraft registration b) Certificate of airworthiness c) Airworthiness review certificate d) EASA Form-1 e) Airplane logbook f) Appropriate papers for every crew member g) Technical logbook

- a) a, b, c, e, f
- b) d, f, g
- c) b, c, d, e, f, g
- d) a, b, e, g

33. 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

34. In case of a water landing, when should the life jackets be inflated?

- a) Before touchdown on water surface
- b) After leaving the basket
- c) After landing, still in the basket, if leaving the basket has to be expected
- d) During cruise over water

35. The maximum number of passengers can be found ...

- a) In the certificate of registration
- b) In the operating handbook
- c) In the Flight Log book
- d) In the airworthiness certificate

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

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

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37. 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

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

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

39. The emergency opening of a gas balloon is located where?

- a) To the side of the appendix
- b) At the upper pole
- c) At the equator
- d) To the side of the valve

40. What is an indication for a macho attitude?

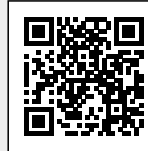
- a) Quick resignation in complex and critical situations
- b) Comprehensive risk assessment when faced with unfamiliar situations
- c) Careful walkaround procedure
- d) Risky flight maneuvers to impress spectators on ground

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

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

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42. The altimeter can be checked on the ground by setting...

- a) QNE and checking that the indication shows zero on the ground
- b) QFF and comparing the indication with the airfield elevation
- c) QNH and comparing the indication with the airfield elevation
- d) QFE and comparing the indication with the airfield elevation

43. 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

44. 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

45. 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

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

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

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47. What process results in the formation of "orographic fog" ("hill fog")?

- a) Prolonged radiation during nights clear of clouds
- b) Warm, moist air is moved across a hill or a mountain range
- c) Evaporation from warm, moist ground area into very cold air
- d) Cold, moist air mixes with warm, moist air

48. What statement is correct with regard to change in temperature?

- a) During climb, the carrying gas warms due to thermal exchange with environmental air
- b) During descent, the carrying gas warms adiabatically
- c) During descent, the carrying gas warms due to thermal exchange with environmental air
- d) During climb, the carrying gas warms adiabatically

49. 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

50. A balloon pilot decides to use one or more separate gas containers for initial heating during buildup. To ensure a safe buildup ...

- a) To expedite take-off, the gas containers have to be stored outside
- b) No separate gas containers are allowed during buildup
- c) The gas containers have to be fixed safely inside the basket
- d) Two gas containers (one inside, one outside) are to be used

51. With other factors remaining constant, decreasing temperature results in...

- a) Decreasing spread and decreasing relative humidity
- b) Decreasing spread and increasing relative humidity
- c) Increasing spread and decreasing relative humidity
- d) Increasing spread and increasing relative humidity

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52. 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

53. The density of helium gas under standard conditions is:

- a) 0,2 kg / m³
- b) 2 kg / m³
- c) 0,02 g / m³
- d) 0,2 g / m³

54. 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

55. 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

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

- a) Traffic information
- b) Taxi instructions
- c) Heading
- d) Altimeter setting

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57. 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

58. 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

59. How do dew point and relative humidity change with decreasing temperature?

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

60. An altitude of 4500 ft is transmitted as...

- a) Four five zero zero
- b) Four thousand five zero zero
- c) Four five thousand
- d) Four thousand five hundred

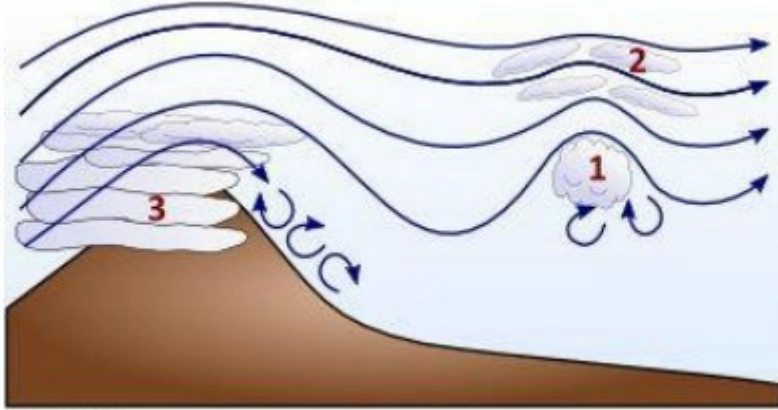
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61. What weather phenomenon designated by "2" has to be expected on the lee side during "Foehn" conditions?
See figure (MET-001).



- a) Cumulonimbus
- b) Altocumulus Castellanus
- c) Nimbostratus
- d) Altocumulus lenticularis

62. How should a landing of a gas balloon be conducted at strong winds?

- a) Drop tow; in sufficient height activate rip panel
- b) Activate rip panel without throwing tow
- c) Drop tow; activate rip panel after ground contact
- d) Drop tow; conduct landing with use of valve

63. The minimum length of the towing rope is:

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

64. Which wind system may be dangerous for balloon rides in the Alps?

- a) Bora
- b) Mistral
- c) Foehn
- d) Scirocco

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65. Given: TC: 183°; WCA: +011°; MH: 198°; CH: 200° What are TH and VAR?

- a) TH: 172°. VAR: 004° E
- b) TH: 194°. VAR: 004° E
- c) TH: 172°. VAR: 004° W
- d) TH: 194°. VAR: 004° W

66. What clouds and weather may result from a humid and unstable air mass, that is pushed against a chain of mountains by the predominant wind and forced to rise?

- a) Embedded CB with thunderstorms and showers of hail and/or rain
- b) Overcast low stratus (high fog) with no precipitation
- c) Smooth, unstructured NS cloud with light drizzle or snow (during winter)
- d) Thin Altostratus and Cirrostratus clouds with light and steady precipitation

67. 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

68. What effect can sudden insolation from sunlight have on a gas balloon?

- a) The height at maximum differential pressure decreases
- b) The height at maximum differential pressure increases
- c) The hull pressure decreases
- d) A sudden increase in rate of descent

69. 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

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70. 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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Response Scheme

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

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

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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: _____		