

Exam simulation

Exam BPL Gas - Balloon Pilot License - Aircraft General Knowledge



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STUDENT NAME:

DATE AND TIME:

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

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

02. How can the vents be checked before take-off with a gas balloon?

- a) Connecting the filling nozzle with the static line loop
- b) Strongly shaking the vent rope
- c) Perform a valve slide
- d) Check if the ropes are clear and working

03. With regard to global circulation within the atmosphere, where does polar cold air meet subtropical warm air?

- a) At the subtropical high pressure belt
- b) At the equator
- c) At the polar front
- d) At the geographic poles

04. 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 workaround procedure
- d) Risky flight maneuvers to impress spectators on ground

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

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

08. How does the norm height of a gas balloon with maximum differential pressure change, when its mass is reduced by 1%?

- a) Norm height increases by 800 m
- b) Norm height decreases by 800 m
- c) Norm height decreases by 80 m
- d) Norm height increases by 80 m

09. 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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10. (For this question, please use annex PFP-063) According ICAO, what symbol indicates a general spot elevation?

- A 300
- B (300)
- C •1737
- D •1737

PFP-063

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

11. What is a latent error?

- a) An error which has an immediate effect on the controls
- b) An error which is made by the pilot actively and consciously
- c) An error which remains undetected in the system for a long time
- d) An error which only has consequences after landing

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

- a) Calm winds during passage of a shower
- b) Steady wind from direction of shower
- c) Strong gust from variable directions
- d) Steady wind into direction of shower

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

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

14. Visual illusions are mostly caused by...

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

15. What is the percentage of oxygen in the atmosphere at 6000 ft?

- a) 78 %
- b) 21 %
- c) 12 %
- d) 18.9 %

16. 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

17. What should be considered regarding a scheduled flight over water, when land cannot be reached in case of an emergency landing?

- a) Transponder code 7600 has to be set during the whole flight
- b) Contact to the nearest ATC shall consist during the whole flight
- c) The flight plan has to contain the exact waypoints
- d) For all passengers there must be life jackets or lifeboats present

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18. 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

19. What is the minimum flight visibility in airspace "C" below FL 100 for an aircraft operating under VFR?

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

20. 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

21. What is the meaning of an area marked as "TMZ"?

- a) Touring Motorglider Zone
- b) Traffic Management Zone
- c) Transponder Mandatory Zone
- d) Transportation Management Zone

22. 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

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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. A flight level is a...

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

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

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

26. 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

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

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

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

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

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

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

31. Which dangerous attitudes are often combined?

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

32. What conditions are favourable for the formation of thunderstorms?

- a) Warm and dry air, strong inversion layer
- b) Clear night over land, cold air and patches of fog
- c) Calm winds and cold air, overcast cloud cover with St or As
- d) Warm humid air, conditionally unstable environmental lapse rate

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33. 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

34. How can expanding filling gas be released in case the filling port of a gas balloon cannot be opened during cruise?

- a) By activating the pull rope
- b) Through the emergency opening
- c) By releasing the filling port cables
- d) By turning the Poeschelring

35. 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

36. A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 6 cm in the chart has been passed within 9 minutes. After how many more minutes, the overflight of another waypoint at a chart distance of additional 4 cm can be expected?

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

37. 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

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38. 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

39. A risk factor for decompression sickness is...

- a) Scuba diving prior to flight
- b) 100 % oxygen after decompression
- c) Sports
- d) Smoking

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

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

41. 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%

42. Weather phenomena are most common to be found in which atmospheric layer?

- a) Thermosphere
- b) Troposphere
- c) Tropopause
- d) Stratosphere

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

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

44. 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

45. 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

46. 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

47. In a given height, a given amount of ballast is unloaded from a gas balloon. How is the increase in height at 5500 m different from the increase in height at MSL by unloading the same amount of ballast?

- a) At 5500 m the increase in height is twice as high
- b) At 5500 m the increase in height is three times as high
- c) At both heights the same increase in height is observed
- d) At 5500 m the increase in height is four times as high

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48. 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

49. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 270 m obstacles erect up to 40 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) 2 m/s
- c) 1.5 m/s
- d) 0.5 m/s

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

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

51. The term "runway" is defined as a...

- a) Rectangular area on a land or water aerodrome prepared for the landing and take-off of aircraft
- b) Rectangular area on a land aerodrome prepared for the landing and take-off of helicopters
- c) Round area on an aerodrome prepared for the landing and take-off of aircraft
- d) Rectangular area on a land aerodrome prepared for the landing and take-off of aircraft

52. How many satellites are necessary for a precise and verified three-dimensional determination of the position?

- a) Four
- b) Five
- c) Two
- d) Three

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53. 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

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

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

55. 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

56. 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) Flight Information Service (FIS)

57. 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

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58. The dry adiabatic lapse rate has a value of...

- a) 1.0° C / 100 m
- b) 0.6° C / 100 m
- c) 0.65° C / 100 m
- d) 2° C / 1000 ft

59. 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

60. Which of the following factors affects the reception of VHF transmissions?

- a) Altitude
- b) Twilight error
- c) Shoreline effect
- d) Height of ionosphere

61. 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

62. 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

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63. 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

64. What phrase is used by a pilot to inform the tower about a go-around?

- a) Approach canceled
- b) Going around
- c) No landing
- d) Pulling up

65. 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

66. 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

67. 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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68. 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)

69. What process causes latent heat being released into the upper troposphere?

- a) Descending air across widespread areas
- b) Cloud forming due to condensation
- c) Evaporation over widespread water areas
- d) Stabilisation of inflowing air masses

70. 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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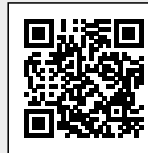
Response Scheme

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

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