

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Aircraft General Knowledge



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STUDENT NAME:

DATE AND TIME:

01. How does a gas react when released from a pressurized container?

- a) The gas cools adiabatically due to expansion
- b) The gas cools due to thermal contact with environmental air
- c) The gas heats adiabatically due to expansion
- d) The gas condenses inside the envelope

02. What visual flight conditions can be expected within the warm sector of a polar front low during summer time?

- a) Visibility less than 1000 m, cloud-covered ground
- b) Moderate to good visibility, scattered clouds
- c) Moderate visibility, heavy showers and thunderstorms
- d) Good visibility, some isolated high clouds

03. What chart shows areas of precipitation?

- a) Radar picture
- b) GAFOR
- c) Wind chart
- d) Satellite picture

04. The stretch-out of the envelope of a hot-air balloon should be made:

- a) To the lee side of the basket
- b) To the windward side of the basket
- c) To the sunward side of the basket
- d) To the sun-averted side of the basket

05. 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

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06. If there is any doubt about ambiguity, a time of 1620 is to be transmitted as...

- a) One six two zero
- b) Sixteen twenty
- c) One thousand six hundred two zero
- d) Two zero

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

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

08. While overflying a waypoint, it is stated that a distance of 2 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) 12 min
- c) 180 min
- d) 90 min

09. 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

10. 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

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11. With pressure and temperature given, any gas being heavier or lighter than air depends on what?

- a) On the mean kinetic energy of the molecules
- b) On the molecule mass of the gas
- c) On the content of water vapour in the gas
- d) On the number of gas molecules

12. Which dangerous attitudes are often combined?

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

13. 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

14. 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

15. 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°

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16. What distance corresponds to one degree difference in latitude along any degree of longitude?

- a) 60 km
- b) 30 NM
- c) 1 NM
- d) 60 NM

17. 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

18. Which force causes "wind"?

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

19. 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

20. 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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21. What is the correct abbreviation of the call sign D-EAZF?

- a) DEA
- b) DZF
- c) DEF
- d) AZF

22. What is the purpose of the vaporizer coils of the burner system?

- a) To induce a rotation movement in the liquid gas to get a better mixture
- b) For cooling of the liquid gas after exiting the burner nozzles
- c) To heat the liquid gas, so it will vaporize immediately after exiting the burner nozzle
- d) To vaporize the liquid gas, so it will be emitted from the burner nozzle in gaseous form

23. Visual illusions are mostly caused by...

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

24. 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

25. 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) The gas containers have to be fixed safely inside the basket
- c) No separate gas containers are allowed during buildup
- d) Two gas containers (one inside, one outside) are to be used

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

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

27. 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° / 1000 ft

28. Which phrase is to be used when a pilot wants the tower to know that he is ready for take-off?

- a) Ready for start-up
- b) Ready for departure
- c) Ready
- d) Request take-off

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

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

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

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

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31. What is indicated by a yellow arc on the hull thermometer with an analog scale?

- a) Maximum permissible values
- b) The cautious area
- c) Readability improvement
- d) The normal operating area

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

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

33. 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

34. 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

35. At high altitude, the complete heating system of a hot-air balloon fails. What maximum rate of descent has to be expected upon reaching ground?

- a) Approximately 2.5 m/s
- b) Approximately 4.5 m/s
- c) Approximately 6.5 m/s
- d) Approximately 2.5 m/s

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36. An aerodrome beacon (ABN) is a...

- a) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the ground
- b) Rotating beacon installed at the beginning of the final approach to indicate its location to aircraft pilots from the air
- c) Fixed beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air
- d) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air

37. What cloud type does the picture show? See figure (MET-004).



- a) Cirrus
- b) Altocumulus
- c) Stratus
- d) Cumulus

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38. What is the correct way of acknowledging the instruction "DZF after lift-off climb straight ahead until 2500 feet before turning right heading 220 degrees, wind 090 degrees, 5 knots, runway 12, cleared for take-off"?

- a) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, runway 12, cleared for take-off
- b) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots, cleared for take-off
- c) DZF after lift-off climb straight ahead 2500 feet, wilco, heading 220 degrees, 090 degrees, 5 knots, cleared for take-off
- d) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots

39. Clouds are basically distinguished by what types?

- a) Cumulus and stratiform clouds
- b) Layered and lifted clouds
- c) Thunderstorm and shower clouds
- d) Stratiform and ice clouds

40. 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

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

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

42. 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

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43. About the lower end of the pull rope of a hot-air balloon it can be said:

- a) It has an especially smooth surface
- b) It is fixed to the lower basket area
- c) It has to be lubricated before every take-off
- d) It is particularly heat resistant

44. After take-off with a balloon, obstacles at a distance of 300 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) 8 m/s
- b) 2.5 m/s
- c) 10 m/s
- d) 1 m/s

45. A transponder with the ability to send the current pressure level is a...

- a) Mode C or S transponder
- b) Mode A transponder
- c) Transponder approved for airspace "B"
- d) Pressure-decoder

46. Which area could be crossed with certain restrictions?

- a) Restricted area
- b) No-fly zone
- c) Prohibited area
- d) Dangerous area

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

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

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48. What information is provided in the part "AD" of the AIP?

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

49. Air consists of oxygen, nitrogen and other gases. What is the approximate percentage of other gases?

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

50. The basket ropes of a hot-air balloon are usually fixed to ...

- a) The burner
- b) The burner cage
- c) To the scoop
- d) The Nomex apron

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51. (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

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

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

53. 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

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54. 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

55. 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

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

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

57. 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)

58. 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) By warming of upper atmospheric layers

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59. A true altitude is...

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

60. Which transponder code indicates a loss of radio communication?

- a) 7700
- b) 7600
- c) 7000
- d) 2000

61. What does the abbreviation "HX" stand for?

- a) Sunrise to sunset
- b) 24 h service
- c) Sunset to sunrise
- d) No specific opening hours

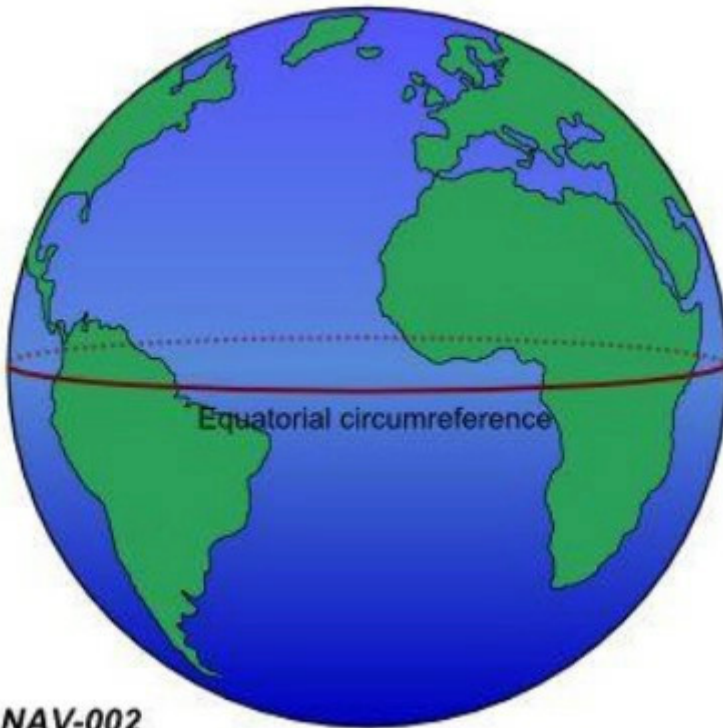
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62. The circumference of the Earth at the equator is approximately... See figure (NAV-002)



- a) 40000 NM
- b) 12800 km
- c) 10800 km
- d) 21600 NM

63. 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

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

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

66. 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

67. 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

68. A flight level is a...

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

69. When do you expect wind shear?

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

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70. 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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Response Scheme

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

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