Quiz BPL Hot Air - Balloon Pilot License - Navigation



STUDENT NAME:	DATE AND TIME:
	DATE AND TIME:

01. How can you obtain meteorological information concerning airports during a crosscountry flight?

- a) AIRMET
- b) VOLMET
- c) METAR
- d) GAMET

02. The final sinkrate of a hot-air ballon is achieved after descent over a vertical distance of:

- a) 1000 2000 m
- b) 50 100 m
- c) 250 450 m
- d) 500 1000 m

03. During buildup of a hot-air balloon, who has to be equipped with tight, flame resistant gloves and clothing covering all body parts?

- a) Only the balloon pilot
- b) Balloon pilot, buildup team and spectators
- c) Only the buildup team
- d) The balloon pilot and the buildup team

04. The term "ceiling" is defined as the...

- a) Height of the base of the highest layer of clouds covering more than half of the sky below 20000 ft.
- b) Height of the base of the lowest layer of clouds covering more than half of the sky below 10000 ft.
- c) Altitude of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft
- d) Height of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft

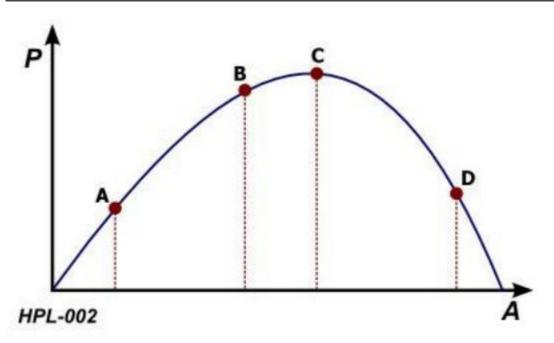
05. Which are the properties of a Mercator chart?

- a) The scales 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 scales 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

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06. The ideal level of arousal is at which point in the diagram? See figure (HPL- 002) P = Performance A = Arousal / Stress Siehe Anlage 1



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

07. What does a cloud coverage of "SCT" mean in a METAR weather report?

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

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

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

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09. 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

10. Which of the following messages has the highest priority?

- a) Turn left
- b) Request QDM
- c) QNH 1013
- d) Wind 300 degrees, 5 knots

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

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

12. What difference will be experienced during take-off in presence of a strong surface inversion, compared to a take-off with decreasing temperature with height?

- a) During climb through an inversion, less ballast must be released and/or less heating is required.
- b) During climb through an inversion, less ballast must be released and/or more heating is required.
- c) During climb through an inversion, more ballast must be released and/or more heating is required.
- d) During climb through an inversion, more ballast must be released and/or less heating is required.

13. 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

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14. 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.

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

- a) Four five zero zero
- b) Four tousand five zero zero.
- c) Four five tousand.
- d) Four tousand five hundred.

16. 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.

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

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

18. What are the air masses that Central Europe is mainly influenced by?

- a) Equatorial and tropical warm air
- b) Polar cold air and tropical warm air
- c) Tropical and arctic cold air
- d) Arctic and polar cold air

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19. 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)

20. 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 eustachien tube is blocked
- d) All windows are completely closed

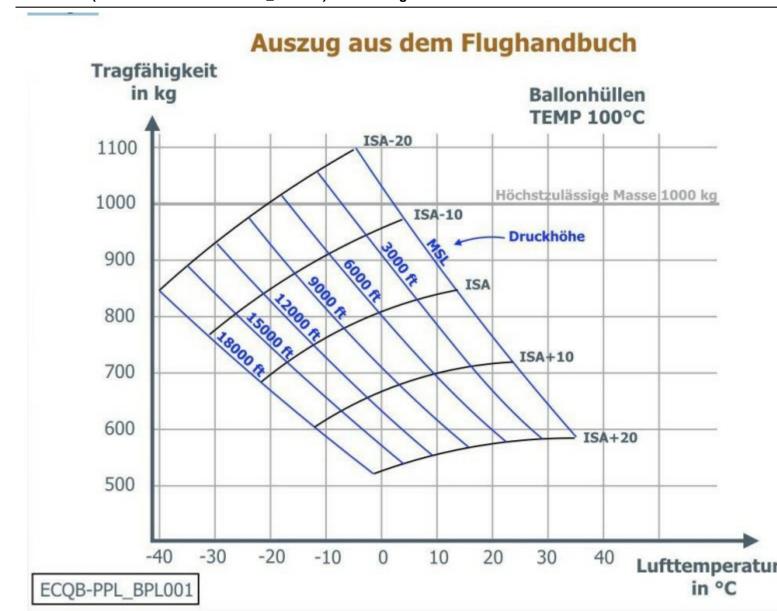
21. What phrase is used by a pilot if a transmission is to be answered with "no"?

- a) Finish
- b) Negative
- c) No
- d) Not

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22. Given the following masses: Empty mass 240 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg l 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) Siehe Anlage 1





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

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23. 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.

24. Where are the two polar circles?

- a) 23.5° north and south of the poles
- b) 23.5° north and south of the equator
- c) At a latitude of 20.5°S and 20.5°N
- d) 20.5° south of the poles

25. Why has a secondary ingnition source be available during a ride with a hot-air balloon?

- a) As an emergency lighting during night.
- b) To check seals of hose connections during darkness.
- c) To provide light signals by a camping fire after an emergency landing.
- d) To re-ingnite the burner or pilot flames after flameout.

26. 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.

27. Which phrase is used by a pilot when he wants to fly through controlled airspace?

- a) Apply
- b) Want
- c) Request
- d) Would like

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28. The dynamic lift created by airflow across the top of the envelope of a balloon on the ground is referred to as?

- a) Lower lift
- b) Upper lift
- c) False lift
- d) Anti-ballast

29. Which factor can lead to human error?

- a) Double check of relevant actions
- b) To be doubtful if something looks unclear or ambiguous
- c) The bias to see what we expect to see
- d) Proper use of checklists

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

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

31. 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 decreasing volume and constant temperature.
- c) The density decreases with increasing temperature and constant volume.
- d) The density decreases with increasing temperature and constant pressure.

32. 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) Uncolltrollable oscillation of the basket.

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33.	The	maximum	number of	of	passengers	can	be	found	
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 a) In the certicate of registrati

- b) In the operating handbook.
- c) In the Flight Log book.
- d) In the airworthiness certificate.

34. 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

35. The term 'isogonal' or 'isogonic line' is defined as a line on an aeronautical chart, connecting all points with the same value of...

- a) Variation.
- b) Inclination.
- c) Heading.
- d) Deviation

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

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

37. The burning gas is pushed from the liquid gas phase through the riser tube to which component?

- a) To the evaporator
- b) To the pressure relief device
- c) To the fill level indicator
- d) To the controller

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38.	The rat	io betweer	n air pressure	s at differen	t heights is	s referred to as:
-----	---------	------------	----------------	---------------	--------------	-------------------

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

39. 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

40. 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

41. What amount of ignitable mixture can be made from 1 L (0,001 m3) liquid propane gas?

- a) 0,38 m3
- b) 0,26 m3
- c) 12 m3
- d) 1,2 m3

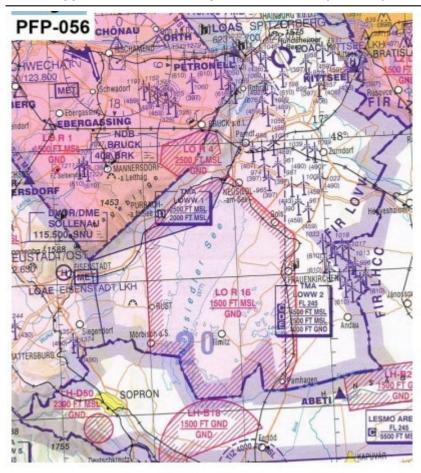
42. What cause may result in a reduction of volume of a free balloon?

- a) Reduction in mass
- b) A gust
- c) Cooling of environment air
- d) Increase in hull temperature

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43. The upper limit of LO R 16 equals... See annex (PFP-056) Siehe Anlage 2



- a) FL150.
- b) 1.500 ft GND.
- c) 1 500 ft MSL.
- d) 1 500 m MSL.

44. What is the minimum flight visibility in airspace "E" for an aircraft operating under VFR at FL75?

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

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45. Which of the following qualities are influenced by stress? 1. Attention 2. Concentration 3. Responsiveness 4. Memory

a) 2, 4

b) 1

c) 1, 2, 3, 4

d) .1, 2, 3

46. A pilot burner which is fed by the gas phase, works by which principle?

- a) Electrostatic principle.
- b) Bunsen principle
- c) Aerostatic principle.
- d) Aerodynamic principle

47. Before take-off, the balloon pilot realises that the maximum take-off mass has been exceeded by 5%. What has to be done?

- a) The load has to be reduced to maximum take-off mass
- b) During take-off, special care has to be taken for obstacles
- c) With exceeding up to 5%, normal take-off can be performed.
- d) Take-off has to be approved by the airfield manager on duty

48. What ist the purpose of the sounding pipe valve?

- a) It allows pressure equalization during cruise at high altitude
- b) To indicate the volumetric filling limit.
- c) It prevents air from entering the burner system
- d) For venting the liquid gas container bottle.

49. 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

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50. The barometric altimeter indicates height above...

- a) Mean sea level.
- b) Ground.
- c) A selected reference pressure level.
- d) Standard pressure 1013.25 hPa.

51. Which dangerous attitudes are often combined?

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

52. 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.

53. 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

54. Who provides search and rescue service?

- a) Only military organisations
- b) Both military and civil organisations
- c) Only civil organisations
- d) Only civil organisations

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55. 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.

56. 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

57. 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.

58. The main blast valve is located where?

- a) At the main cylinder
- b) At the burner
- c) At the hull equator
- d) At the upper hull part

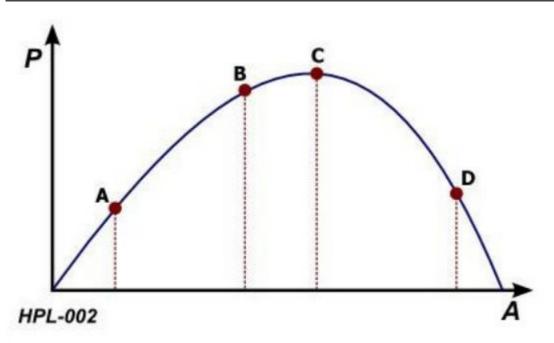
59. Why should a liquid gas bottle only be filled to 80% of its volume?

- a) Because temperature would get too high.
- b) Because it would get to heavy otherwise.
- c) To provide space for temperature-induced expansion.
- d) To provide space for expansion in case of external cooling

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60. At which point in the diagram will a pilot find himself to be overstrained? See figure (HPL-002) P = Perfromance A = Arousal / Stress Siehe Anlage 1



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

61. 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 ist the aerodrome of departure
- d) There are other aircraft in the aerodrome circuit

62. The majority of aviation accidents are caused by...

- a) Human failure
- b) Technical failure
- c) Geographical influences.
- d) Meteorological influences.

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63. 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

64. What is the correct way to transmit the call sign OE-JVK?

- a) Omega Echo Juliett Victor Kilogramm
- b) Omega Echo Jankee Victor Kilo
- c) Oscar Echo Juliett Victor Kilo
- d) Oscar Echo Jankee Victor Kilogramm

65. What kind of reduction in visibility is not very sensitive to changes in temperature?

- a) Haze (HZ)
- b) Radiation fog (FG)
- c) Mist (BR)
- d) Patches of fog (BCFG)

66. 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

67. What is the consequence if the pressure at the burner valve is lower than 0.28 MPa (lower than 2.8 bar)?

- a) Take-off is prohibited.
- b) Tha gas container should be heated by the flame.
- c) The heating system may be damaged.
- d) The pressure in the gas container may be increased by use of acetylene.

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68. 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

69. 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.

70. At which conditions does the arm blower have the highest effeiciency?

- a) With as small distance to the balloon opening as possible.
- b) By evenly swiveling for better air spreading.
- c) By completely filling the balloon opening with the air beam.
- d) By placing the blower inside the hull.

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

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

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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:
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69:	70:		