

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Operational Procedures



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STUDENT NAME:

DATE AND TIME:

01. 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

02. 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

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

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

04. Liquefaction of propane gas results in a reduction in volume to what fraction of the gas volume?

- a) 1/160
- b) 1/260
- c) 1/360
- d) 1/60

05. What is 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

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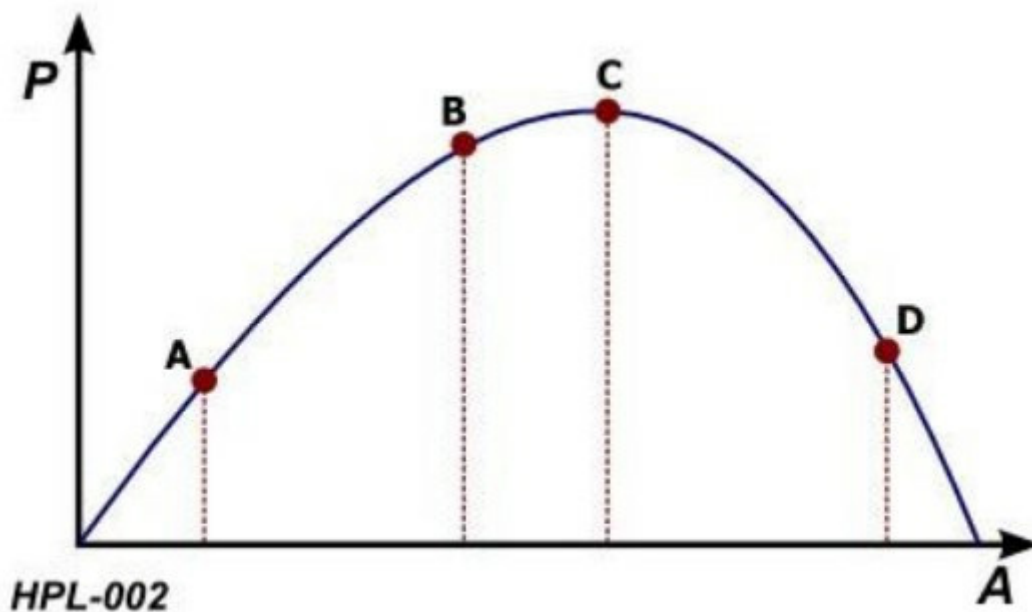
06. Vienna (LOWW) is located at $016^{\circ} 34'E$, Salzburg (LOWS) at $013^{\circ} 00'E$. The latitude of both positions can be considered as equal. What is the difference of sunrise and sunset times, expressed in UTC, between Wien and Salzburg?

- a) In Vienna the sunrise and sunset are about 4 minutes later than in Salzburg
- b) In Vienna the sunrise and sunset are about 14 minutes earlier than in Salzburg
- c) In Vienna the sunrise is 4 minutes later and sunset is 4 minutes earlier than in Salzburg
- d) In Vienna the sunrise is 14 minutes earlier and sunset is 14 minutes later than in Salzburg

07. Point A on the Earth's surface lies exactly on the parallel of latitude of $47^{\circ}50'27''N$. Which point is exactly 240 NM north of A?

- a) $53^{\circ}50'27''N$
- b) $49^{\circ}50'27''N$
- c) $43^{\circ}50'27''N$
- d) $51^{\circ}50'27''N$

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



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

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09. 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

10. The main burner is fed by which phase?

- a) By the low-pressure phase
- b) By the gas phase
- c) By the plasma phase
- d) By the liquid phase

11. What is the minimum flight visibility in airspace "C" at and above FL 100 for an aircraft operating under VFR?

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

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12. (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

13. 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

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

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

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15. What is referred to as mountain wind?

- a) Wind blowing uphill from the valley during daytime
- b) Wind blowing uphill from the valley during the night
- c) Wind blowing down the mountain side during daytime
- d) Wind blowing down the mountain side during the night

16. An aircraft travels 100 km in 56 minutes. The ground speed (GS) equals...

- a) 93 kt
- b) 198 kt
- c) 107 km/h
- d) 58 km/h

17. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles?

- A
- B
- C
- D

PFP-061

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

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18. 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

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

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

20. 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

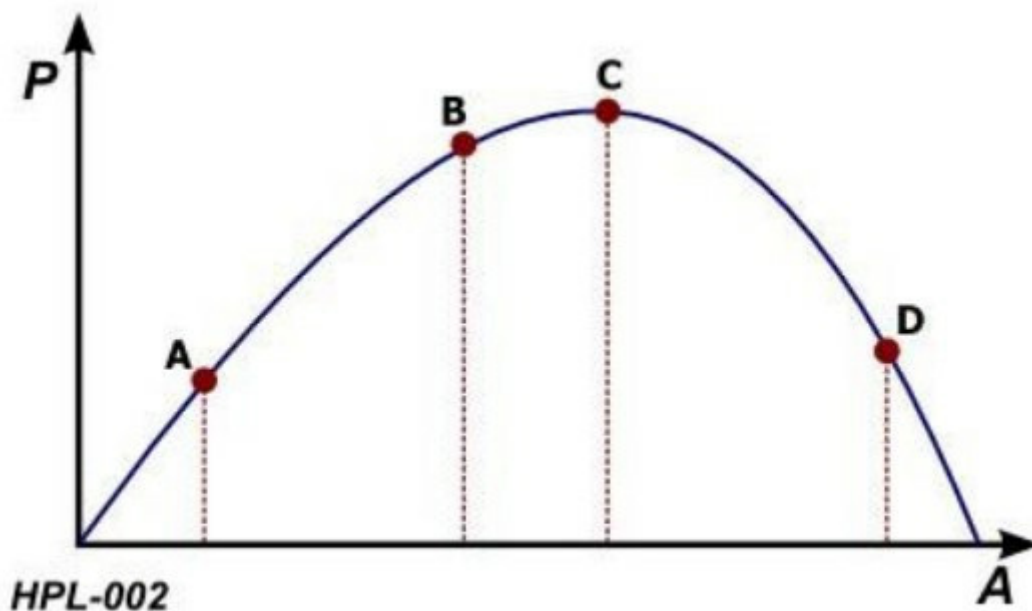
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21. The ideal level of arousal is at which point in the diagram? See figure (HPL-002) P = Performance A = Arousal / Stress



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

22. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 360 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) 0.5 m/s
- d) 1.5 m/s

23. What is the purpose of the signal square at an aerodrome?

- a) It is a specially marked area to pick up or drop towing objects
- b) It is an illuminated area on which search and rescue and fire fighting vehicles are placed
- c) It contains special symbols to indicate the conditions at the aerodrome visually to over-flying aircraft
- d) Aircraft taxi to this square to get light signals for taxi and take-off clearance

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

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

25. Which approximate, geometrical form describes the shape of the Earth best for navigation systems?

- a) Sphere of ecliptical shape
- b) Ellipsoid
- c) Flat plate
- d) Perfect sphere

26. What is the call sign of the flight information service?

- a) Advice
- b) Flight information
- c) Info
- d) Information

27. Which force causes "wind"?

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

28. The term 'magnetic course' (MC) is defined as...

- a) The angle between true north and the course line
- b) The direction from an arbitrary point on Earth to the magnetic north pole
- c) The direction from an arbitrary point on Earth to the geographic North Pole
- d) The angle between magnetic north and the course line

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29. 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

30. 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

31. When using a GPS for tracking to the next waypoint, a deviation indication is shown by a vertical bar and dots to the left and to the right of the bar. What statement describes the correct interpretation of the display?

- a) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection is ± 10 NM
- b) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS
- c) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection is $\pm 10^\circ$
- d) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection depends on the operating mode of the GPS

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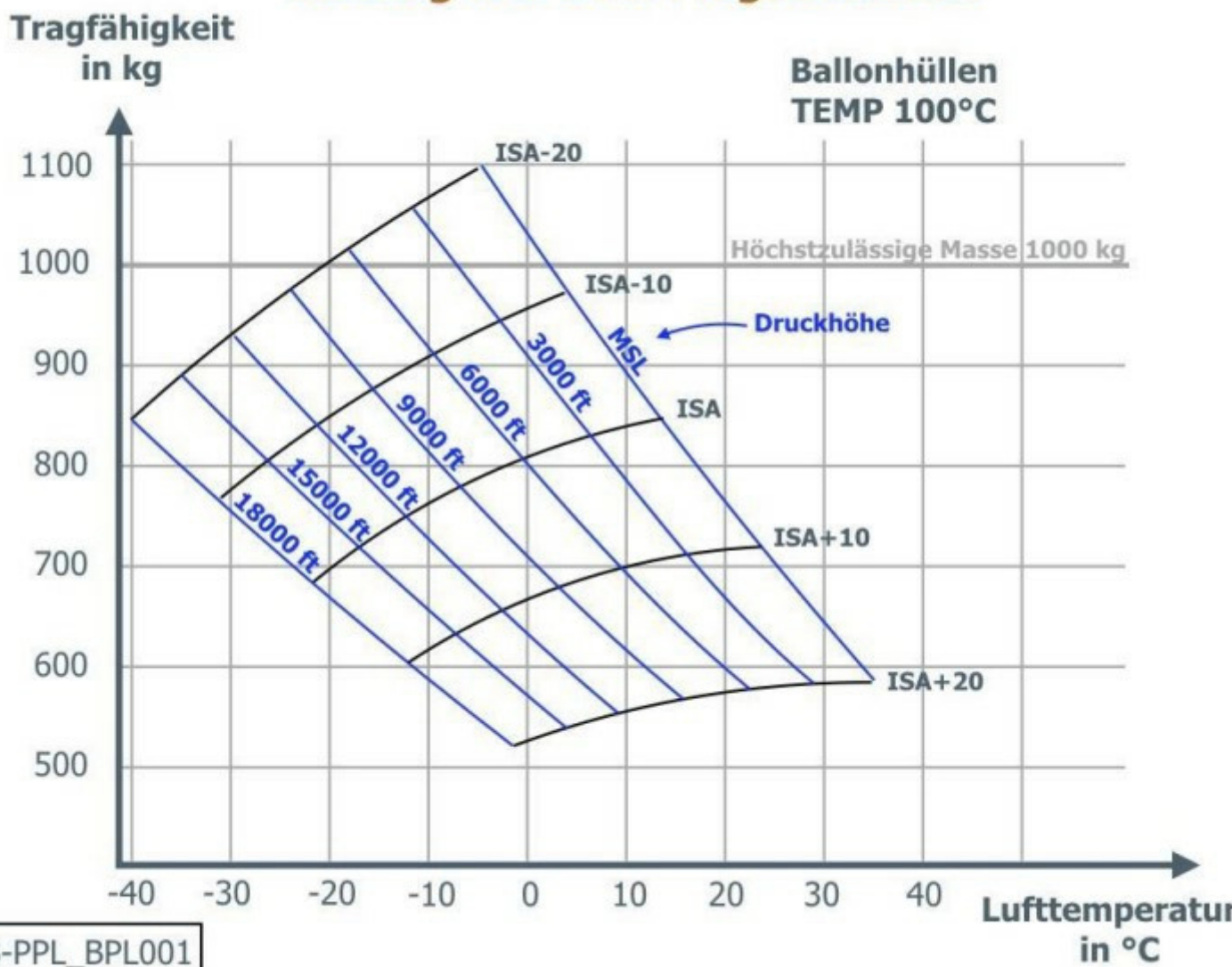
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32. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming temperature ISA+10, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 12000 ft ? (use attachment ECQB-PPL_BPL001)

Auszug aus dem Flughandbuch



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

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

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

34. Which are the different parts of the Aeronautical Information Publication (AIP)?

- a) GEN ENR AD
- b) GEN MET RAC
- c) GEN COM MET
- d) GEN AGA COM

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

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

36. 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

37. The electronic remote hull thermometer of a hot-air balloon is operating by which principle?

- a) Venturi principle
- b) Boyle principle
- c) Resistance- / Semiconductor principle
- d) Bernoulli principle

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38. How does air temperature change in ISA from MSL to approx. 10000 m height?

- a) From +30° to -40°C
- b) From -15° to 50°C
- c) From +15° to -50°C
- d) From +20° to -40°C

39. An ATIS is valid for...

- a) 45 minutes
- b) 30 minutes
- c) 60 minutes
- d) 10 minutes

40. Which dangerous attitudes are often combined?

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

41. A boundary between a cold polar air mass and a warm subtropical air mass showing no horizontal displacement is called...

- a) Warm front
- b) Occluded front
- c) Cold front
- d) Stationary front

42. 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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43. 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

44. 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

45. What phrase is used by a pilot if a transmission is to be answered with "yes"?

- a) Affirmative
- b) Affirm
- c) Roger
- d) Yes

46. At which conditions does the arm blower have the highest efficiency?

- 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

47. At equilibrium the inner overpressure of a free balloon is highest at:

- a) At the lower opening
- b) The upper pole
- c) At the center of the hull
- d) At the equator

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48. What is the call sign of the surface movement control?

- a) Earth
- b) Ground
- c) Tower
- d) Control

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

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

50. What does a readability of 3 indicate?

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

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

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

52. 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

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53. The term "aerodrome elevation" is defined as...

- a) The highest point of the landing area
- b) The average value of the height of the manoeuvring area
- c) The highest point of the apron
- d) The lowest point of the landing area

54. 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

55. The altimeter's reference scale is set to airfield pressure (QFE). What indication is shown during the flight?

- a) Pressure altitude
- b) Altitude above MSL
- c) Airfield elevation
- d) Height above airfield

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

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

57. Which statement is correct with regard to the polar axis of the Earth?

- a) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is at an angle of 23.5° to the plane of the equator
- b) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is perpendicular to the plane of the equator
- c) The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is perpendicular to the plane of the equator
- d) The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is at an angle of 66.5° to the plane of the equator

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

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

59. The hull fabric of a hot-air balloon undergoes the most continuous thermal stress in which area?

- a) In the apron area
- b) In the lower third
- c) At the equator
- d) At the top area

60. What is the correct frequency for an initial distress message?

- a) FIS frequency
- b) Radar frequency
- c) Current frequency
- d) Emergency frequency

61. The vertical speed indicator measures the difference of pressure between...

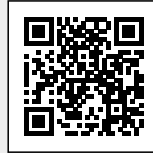
- a) The present dynamic pressure and the static pressure of a previous moment
- b) The present total pressure and the total pressure of a previous moment
- c) The present dynamic pressure and the dynamic pressure of a previous moment
- d) The present static pressure and the static pressure of a previous moment

62. What does the abbreviation "H24" stand for?

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

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63. Under which conditions false readouts are possible on hull thermometers using radio communication from sensor to indicator panel?

- a) When radio messages are received
- b) When the sensor battery is almost empty
- c) When the hull temperature exceeds 110 °C
- d) When there is no intervisibility to temperature sensor

64. 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

65. 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°

66. 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

67. How can wind speed and wind direction be derived from surface weather charts?

- a) By annotations from the text part of the chart
- b) By alignment of lines of warm- and cold fronts
- c) By alignment and distance of isobaric lines
- d) By alignment and distance of hypsometric lines

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68. What is the correct way of using the aircraft call sign at first contact?

- a) Using the last two characters only
- b) Using all characters
- c) Using the first two characters only
- d) Using the first three characters only

69. The saturated adiabatic lapse rate should be assumed with a mean value of:

- a) 2° C / 1000 ft
- b) 1.0° C / 100 m
- c) 0.6° C / 100 m
- d) 0° C / 100 m

70. 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

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Response Scheme

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

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