

# Exam simulation

Quiz BPL Gas - Balloon Pilot License - Meteorology



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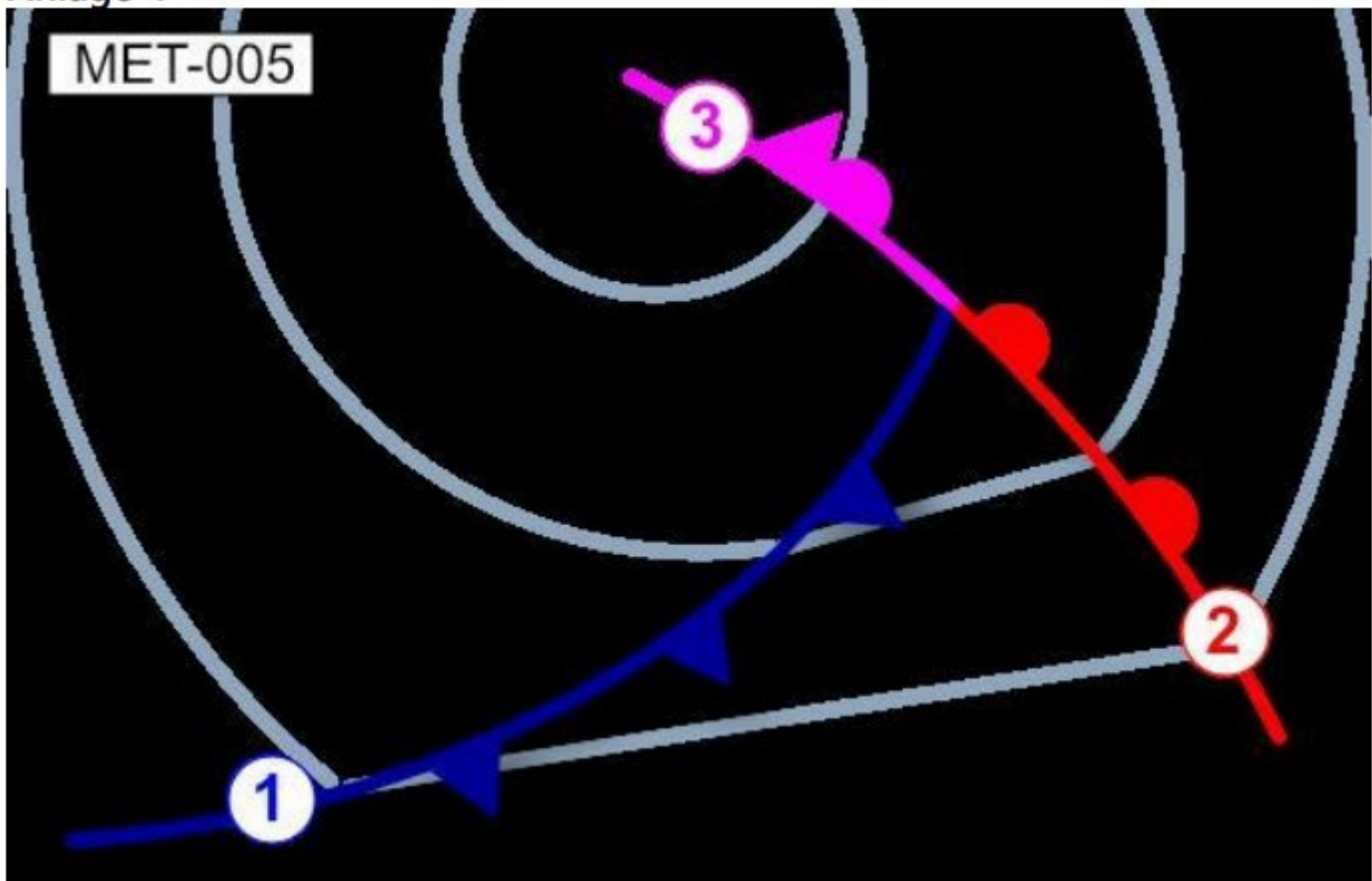
STUDENT NAME:

DATE AND TIME:

01. Under which conditions "back side weather" ("Rückseitenwetter") can be expected?

- a) During Foehn at the lee side
- b) Before passing of an occlusion
- c) After passing of a warm front
- d) After passing of a cold front

02. The symbol labeled (2) as shown in the picture is a / an... See figure (MET-005)



- a) Front aloft
- b) Cold front
- c) Occlusion
- d) Warm front

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**03. 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?**

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- a) 60 min
- b) 90 min
- c) 12 min
- d) 180 min

**04. What is the correct course of action when experiencing a radio failure in class D airspace?**

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- a) The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left by the shortest route
- b) The flight has to be continued according to the last clearance complying with VFR flight rules or the airspace has to be left using a standard routing
- c) The flight has to be continued according to the last clearance complying with VFR rules or the airspace has to be left by the shortest route
- d) The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left using a standard routing

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

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- 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

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

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- a) 2, 4
- b) 1
- c) 1, 2, 3, 4
- d) 1, 2, 3

**07. Times are transmitted as...**

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- a) Standard time
- b) Time zone time
- c) Local time
- d) UTC

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

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- a) SSR-Code
- b) Wind
- c) Altitude
- d) Runway in use

## 09. The term 'civil twilight' is defined as...

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- 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

## 10. The vertical speed indicator measures the difference of pressure between...

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

## 11. Before buildup, the buildup team has to be informed about correct behaviour at sudden critical situations how?

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- a) Only at gusty winds
- b) Twice
- c) At least two days before
- d) By the balloon pilot

## 12. The aerostatic lift corresponds to which force?

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- a) The dynamic force due to airstream across the top of the hull
- b) The weight of the displaced air
- c) The drag due to airstream around the balloon envelope
- d) The weight of the balloon less ballast

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

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

**14. With regard to gases, which statement is correct?**

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- a) Temperature decreases with increasing pressure and constant volume
- b) Volume increases with increasing temperature and constant pressure
- c) Pressure decreases with increasing temperature and constant volume
- d) Temperature increases with increasing volume and decreasing pressure

**15. During a flight at FL 80, the altimeter setting has to be...**

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- a) Local QFE
- b) 1013.25 hPa
- c) 1030.25 hPa
- d) Local QNH

**16. What is a latent error?**

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- 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

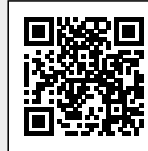
**17. The average decrease of blood alcohol level for an adult in one hour is approximately...**

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- a) 0.3 percent
- b) 0.03 percent
- c) 0.01 percent
- d) 0.1 percent

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## 18. What is the purpose of "interception lines" in visual navigation?

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- 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

## 19. Which factor can lead to human error?

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- 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

## 20. Which are the properties of a Lambert conformal chart?

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- 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

## 21. 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

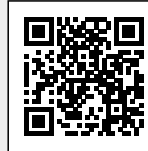
## 22. A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 6 cm in the chart has been passed within 9 minutes. After how many more minutes, the overflight of another waypoint at a chart distance of additional 4 cm can be expected?

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

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

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- 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

**24. 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?**

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- a) 8 m/s
- b) 2.5 m/s
- c) 10 m/s
- d) 1 m/s

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

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

**26. The burst of a hydrogen pressure line may result in what risk?**

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- a) The risk of hydrogen collecting in the basket and causing breath shortness
- b) The risk of hydrogen self-igniting and burning with a bright flame
- c) The risk of hydrogen dissipating to the atmosphere and poisoning the air
- d) The risk of hydrogen self-igniting and burning with invisible flame

**27. What factor may affect the top of cumulus clouds?**

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- a) The spread
- b) Relative humidity
- c) The absolute humidity
- d) The presence of an inversion layer

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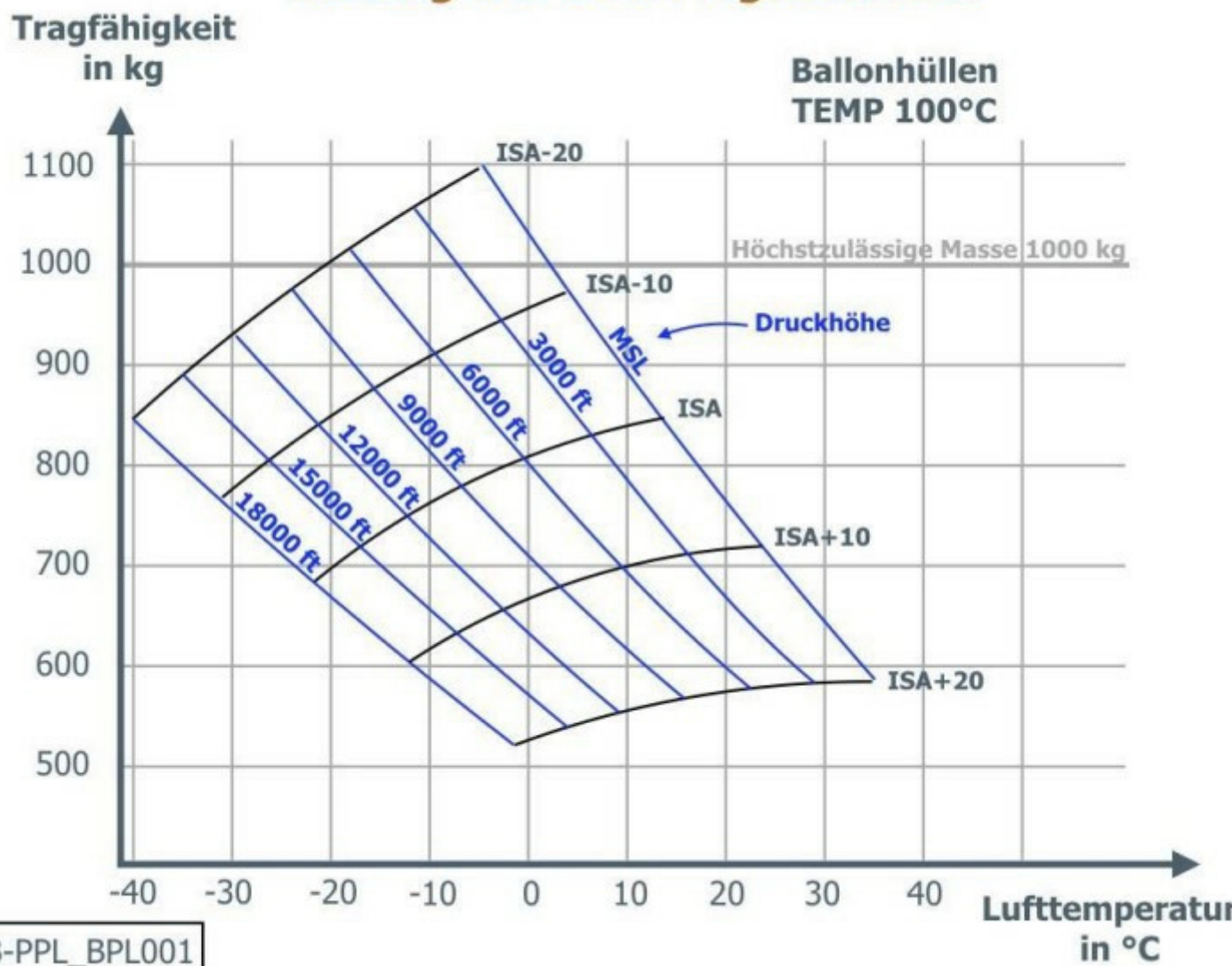
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28. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming temperature ISA+10, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 12.000 ft ? (use attachment ECQB-PPL\_BPL001)

## Auszug aus dem Flughandbuch



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

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**29. 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

**30. 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**

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

**31. Doubling the pressure of a dry gas at constant temperature results in a change of the volume to:**

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- a) Double the previous value
- b) Four times the previous value
- c) Half the previous value
- d) A quarter of the previous value

**32. How may passengers assist the balloon pilot during landing preparation?**

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- a) By activating the emergency opening
- b) By stowing of loose parts
- c) By activating the vents
- d) By activating the pull rope

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**33. Up to which altitude is an overflight prohibited according to the NOTAM? See figure (PFP-024)**

A4604/11 NOTAMN

Q)

EDWW/QROLP/IV/NBO/W/000/095/5155N01037E004

A) EDWW

B) 1111180800 C) 1111181200

E) OVERFLYING PROHIBITED FOR ALL TRAFFIC RADIUS  
3.35NM CENTERED AROUND 515436N 0103725E DUE  
TO DEMOLITION OF EXPLOSIVES AT ECKERTHAL,  
(25NM S BRAUNSCHWEIG NDB BRU) .

F) GND

G) 9500 FT AMSL

- a) Flight Level 95
- b) Altitude 9500 m MSL
- c) Height 9500 ft
- d) Altitude 9500 ft MSL

**34. From which altitude on does the body usually react to the decreasing atmospheric pressure?**

- a) 7000 feet
- b) 12000 feet
- c) 2000 feet
- d) 10000 feet

**35. When air masses meet each other head on, how is this referred to and what air movements will follow?**

- a) Divergence resulting in air being lifted
- b) Convergence resulting in air being lifted
- c) Convergence resulting in sinking air
- d) Divergence resulting in sinking air

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**36. The density of helium gas under standard conditions is:**

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- a) 0,2 kg / m<sup>3</sup>
- b) 2 kg / m<sup>3</sup>
- c) 0,02 g / m<sup>3</sup>
- d) 0,2 g / m<sup>3</sup>

**37. Which altitude marks the lower limit where the body is unable to completely compensate the effects of the low atmospheric pressure?**

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- a) 12000 feet
- b) 7000 feet
- c) 22000 feet
- d) 5000 feet

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

---

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

**39. 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

**40. The ratio between air pressures at different heights is referred to as:**

---

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

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**41. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL110?**

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

**42. An inversion is a layer ...**

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- a) With increasing pressure with increasing height
- b) With increasing temperature with increasing height
- c) With constant temperature with increasing height
- d) With decreasing temperature with increasing height

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

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- 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)

**44. An inversion layer close to the ground can be caused by...**

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- a) Ground cooling during the night
- b) Large-scale lifting of air
- c) Thickening of clouds in medium layers
- d) Intensifying and gusting winds

**45. What are primary criteria for selecting a landing site? 1. Obstacle situation 2. Elevation of the site 3. Strength of surface wind**

---

- a) 1, 2 and 3
- b) 2 and 3
- c) 1 and 3
- d) 1 and 2

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## 46. 1000 ft equal...

---

- a) 3000 m
- b) 300 m
- c) 30 km
- d) 30 m

## 47. 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

## 48. 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

## 49. The directional information "12 o'clock" is correctly transmitted as...

---

- a) Twelve o'clock
- b) One two
- c) One two hundred
- d) One two o'clock

## 50. At which height the load carrying capability of a gas balloon is reduced by approximately 50% compared to MSL?

---

- a) At 6500 m
- b) At 11000 m
- c) At 18000 m
- d) At 1500 m

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**51. What is the status of the rules and procedures created by the EASA? (e.g. Part-SFCL, Part-MED)**

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- 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

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**52. Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts?**

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- a) Wind chart
- b) Hypsometric chart
- c) Prognostic chart
- d) Surface weather chart

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**53. For what approximate time period can the short-time memory store information?**

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- a) 10 to 20 seconds
- b) 3 to 7 seconds
- c) 30 to 40 seconds
- d) 35 to 50 seconds

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**54. An aerodrome beacon (ABN) is a...**

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- 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

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**55. What is the difference between a gas balloon at or below maximum differential pressure during climb?**

---

- a) The balloon at maximum differential pressure climbs with constant rate to unlimited height
- b) The balloon below maximum differential pressure climbs with constant rate up to maximum differential pressure height
- c) The balloon below maximum differential pressure climbs with constant rate to unlimited height
- d) The balloon at maximum differential pressure climbs with constant rate up to maximum differential pressure height

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**56. 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

**57. 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

**58. 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

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

---

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

**60. In what case is visibility transmitted in meters?**

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- a) Up to 10 km
- b) Greater than 10 km
- c) Greater than 5 km
- d) Up to 5 km

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**61. 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

**62. An ATIS is valid for...**

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

**63. The minimum length of the towing rope is:**

---

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

**64. What is the percentage of nitrogen in the atmosphere?**

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

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

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

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**66. 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

**67. 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 %

**68. Which altitude is displayed on the altimeter when set to a specific QFE?**

---

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

**69. 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

**70. 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)

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## Response Scheme

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

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