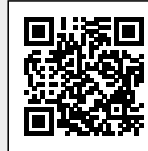


Exam simulation

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STUDENT NAME:

DATE AND TIME:

01. 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

02. Why should balloon pilot or passengers not wear any clothes made of silk or synthetic fibers during ride with a gas balloon?

- a) Because of the danger of explosions induced by sparks after electrical discharge
- b) Because these materials may lead to malfunction of some instruments
- c) Because the total mass will be increased beyond the operating limits
- d) Because these materials may lead to noise in radio reception

03. A flight level is a...

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

04. Which characteristic is important when choosing sunglasses used by pilots?

- a) Curved sidepiece
- b) Unbreakable
- c) No UV filter
- d) Non-polarised

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

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

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

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

07. The emergency opening of a gas balloon is located where?

- a) To the side of the appendix
- b) At the upper pole
- c) At the equator
- d) To the side of the valve

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

- 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)

09. Above the friction layer, with a prevailing pressure gradient, the wind direction is...

- a) At an angle of 30° to the isobars towards low pressure
- b) Perpendicular to the isobars
- c) Parallel to the isobars
- d) Perpendicular to the isohypses

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10. 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

11. 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

12. Which area could be crossed with certain restrictions?

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

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

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

14. 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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15. What factor may affect the top of cumulus clouds?

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

16. At which altitude is the atmospheric pressure approximately half the MSL value (1013 hPa)?

- a) 5000 ft
- b) 18000 ft
- c) 22000 ft
- d) 10000 ft

17. Environmental air temperature and filling gas temperature are the same. Now, the free balloon descends into warmer air. What statement is correct?

- a) Descent force increases
- b) Descent force decreases
- c) Weight force increases
- d) Weight force decreases

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

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

19. What has to be considered before a balloon ride across water surfaces?

- a) A transponder has to be installed and carried aboard
- b) For all people inside the basket life jackets have to be carried aboard
- c) A flight plan with detailed routing has to be filed
- d) Continuous radio communication has to be established with air traffic control

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20. 1000 ft equal...

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

21. What information is provided in the general part (GEN) of the AIP?

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

22. After take-off with a balloon, obstacles at a distance of 600 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) 1 m/s
- b) 3 m/s
- c) 5 m/s
- d) 10 m/s

23. 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

24. 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

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25. 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

26. What frontal line divides subtropical air from polar cold air, in particular across Central Europe?

- a) Polar front
- b) Warm front
- c) Cold front
- d) Occlusion

27. 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

28. 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

29. 5500 m equal...

- a) 7500 ft
- b) 18000 ft
- c) 10000 ft
- d) 30000 ft

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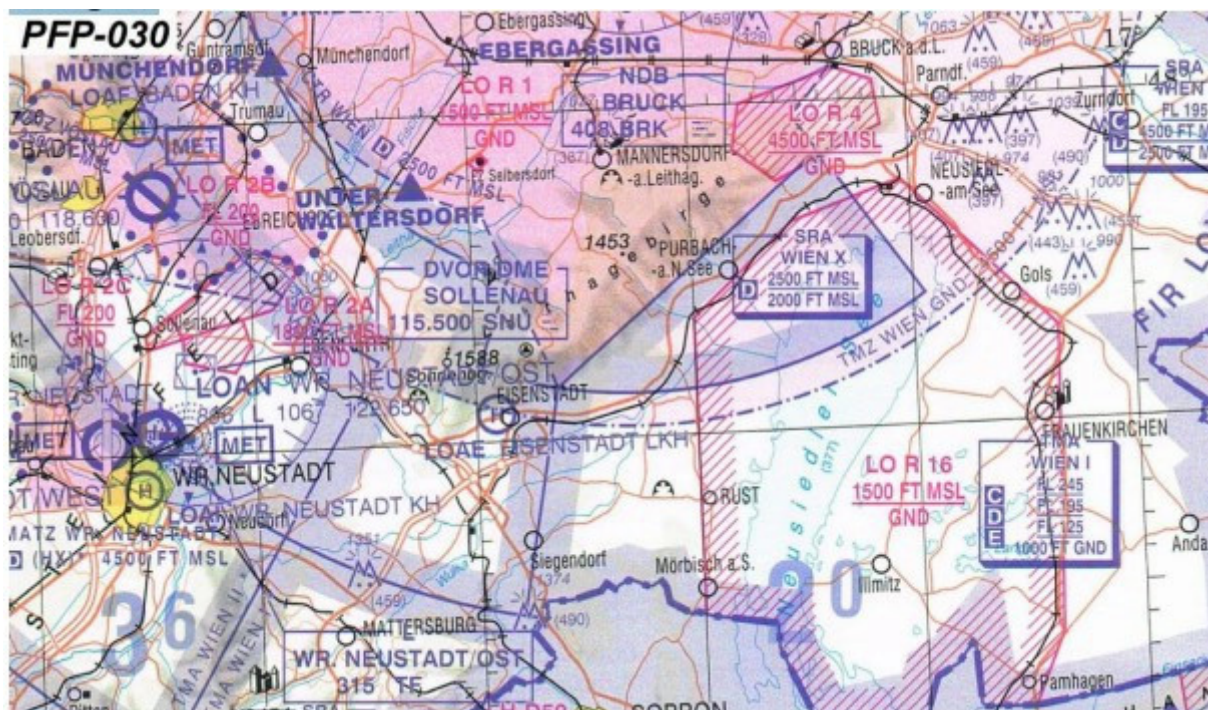
30. At equilibrium the inner overpressure of a free balloon is highest at:

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

31. What may be the cause of controller icing?

- a) A cloud has been entered at temperature between +5 and -10°C
- b) Temperature in the controller is between -1 °C and -5 °C
- c) Relative humidity is higher than 50%
- d) Liquid gas has entered the controller

32. The upper limit of LO R 4 equals... See annex (PPF-030)



- a) 1500 ft MSL
- b) 1500 ft AGL
- c) 4500 ft MSL
- d) 4500 ft AGL

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

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

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

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

35. 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

36. The purpose of the drag lines of the parachute is ...

- a) To transfer the carrying force of the balloon in the top opening area
- b) To transfer the force from the pull rope to the parachute
- c) To keep the parachute in the center of the top opening
- d) To transfer the force from the pull rope to the free-balloon hull

37. 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

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38. Which transponder code indicates a radio failure?

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

39. The pressure at MSL in ISA conditions is...

- a) 1013.25 hPa
- b) 113.25 hPa
- c) 1123 hPa
- d) 15 hPa

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

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

41. 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

42. 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

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

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

44. During a balloon ride, visibility continuously becomes poorer, also cloud base decreases in direction of the current track. How should the balloon pilot react to this situation?

- a) Continue ride in remaining altitude
- b) Use next best chance for landing
- c) Use GPS or radio navigation to continue ride in clouds
- d) Break through the clouds and continue above clouds

45. 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

46. Measured pressure distribution in MSL and corresponding frontal systems are displayed by the...

- a) Significant Weather Chart (SWC)
- b) Prognostic chart
- c) Surface weather chart
- d) Hypsometric chart

47. 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)

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48. 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

49. What is the meaning of the abbreviation "SERA"?

- a) Selective Radar Altimeter
- b) Standard European Routes of the Air
- c) Specialized Radar Approach
- d) Standardized European Rules of the Air

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

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

51. 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°

52. 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

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

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

54. The minimum length of the towing rope is:

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

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

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

56. With Central European Time (CET) given as UTC+1, what UTC time corresponds to 1700 CET?

- a) 1600 UTC
- b) 1800 UTC
- c) 1500 UTC
- d) 1700 UTC

57. 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

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58. 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

59. The altimeter has to be set to what value in order to show zero on ground?

- a) QNH
- b) QTE
- c) QFE
- d) QNE

60. 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

61. 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

62. 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

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63. 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)

64. 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

65. What is the correct way of acknowledging the instruction "Next report PAH"?

- a) Wilco
- b) Positive
- c) Roger
- d) Report PAH

66. 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

67. 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

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68. The measurement of altitude is based on the change of the...

- a) Dynamic pressure
- b) Static pressure
- c) Differential pressure
- d) Total pressure

69. 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

70. 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

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Response Scheme

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

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