

# Exam simulation

PPL(H) - Private Pilot License - Flight Performance and Planning



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STUDENT NAME:

DATE AND TIME:

**01. Which section of the flight manual describes the centre of gravity limitations of a helicopter?**

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- a) Limitations
- b) Normal procedures
- c) Performance
- d) Supplements

**02. In what cases is visibility transmitted in kilometers?**

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

**03. What is the function of the white blood cells (leucocytes)?**

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

**04. Which transponder code has to be set unrequested during an emergency?**

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

**05. How can a pilot confirm a search and rescue signal on ground in flight?**

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- a) Push the rudder in both directions multiple times
- b) Fly in a parabolic flight path multiple times
- c) Rock the wings
- d) Deploy and retract the landing flaps multiple times

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## 06. What is the result of the vortex ring state?

- a) The helicopter is more stable
- b) The helicopter loses power
- c) The sink rate increases uncontrollably
- d) The rotor RPM increases

## 07. What cloud type does the picture show? See figure (MET-004). Siehe Anlage 3



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

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## 08. What is the effect of vortex ring state?

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- a) High rate of descent and irregular pitch, roll, and yaw motions
- b) Stable descent and high-frequency vibrations in the helicopter
- c) Decreased rate of descent and strong vibrations from the engine
- d) Fluctuations in rotor and engine RPM

## 09. How may windshear be recognised in flight?

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- a) Sudden and apparently baseless change of oilpressure, oil temperature, engine speed and altitude.
- b) Sudden and apparently baseless change in altitude, airspeed, rate of climb or descent.
- c) Sudden and apparently baseless change in heading, turning rate, engine speed or oil temperature.
- d) Rather unexpected onset of drizzle associated with high stratus clouds following previously clear skies and calm conditions.

## 10. What does a cloud coverage of "FEW" mean in a METAR weather report?

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

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

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

## 12. A landing conducted in response to circumstances forcing the aircraft to land is a / an...

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- a) Urgent landing.
- b) Precautionary landing.
- c) Field or out landing.
- d) Emergency landing.

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**13. The induced airflow on the rotor of a helicopter in level flight has the greatest value at the...**

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- a) Rear rotor area.
- b) Advancing rotor blade.
- c) Retreating rotor blade.
- d) Front rotor area.

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

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

**15. The transitional lift can be noticed by...**

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- a) An aural warning.
- b) Strong load factors.
- c) Vibrations.
- d) A loss of engine rpm.

**16. What is the function of the blood platelets (thrombocytes)?**

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

**17. What chart shows areas of precipitation?**

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

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## 18. What has to be considered when starting the engine in a strong wind condition?

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- a) The rotor brake should not be released before the engine runs with sufficient RPM.
- b) The cyclic stick should be taken backwards and the collective pitch should be raised.
- c) The mixture should be leaned and the carburettor heat fully pulled.
- d) The helicopter should be aligned with its longitudinal axis in the wind.

## 19. Which of the following states the working principle of an airspeed indicator?

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- a) Dynamic air pressure is measured by the Pitot tube and converted into a speed indication by the airspeed indicator
- b) Total air pressure is measured by the static ports and converted into a speed indication by the airspeed indicator
- c) Total air pressure is measured and compared against static air pressure.
- d) Static air pressure is measured and compared against a vacuum.

## 20. Which of the following options states a correct position report?

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- a) DEABC reaching "N"
- b) DEABC, "N", 2500 ft
- c) DEABC over "N" at 35
- d) DEABC over "N" in FL 2500 ft

## 21. The beam theory enables statements about the...

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- a) Energy conversion in an autorotation.
- b) Power requirements during hover flight
- c) Transition lift close to the ground.
- d) Drag in cruise flight.

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

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

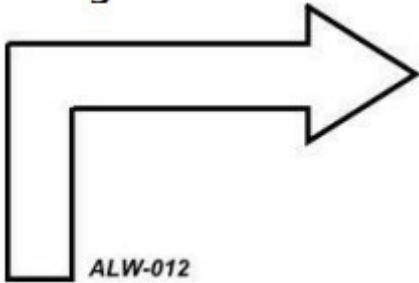
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**23. What is the meaning of the illustrated ground signal as shown in the signal area of an aerodrome? See figure (ALW-012) Siehe Anlage 4**



- a) After take-off and before landing all turns have to be made to the right
- b) Ground movement restricted to hard surfaces
- c) Caution, manoeuvring area is poor
- d) Prohibition on landing for a longer period

**24. During an autorotation with forward speed of a helicopter the driving forces are located in the...**

- a) Region of the retreating rotor blade.
- b) Inner region.
- c) Outer region.
- d) Region of the advancing rotor blade.

**25. What shall be considered before terminating a turn in an autorotation?**

- a) The Coriolis force causes an increase in the main rotor rpm
- b) The pitch angle must be decreased by using the collective pitch lever again
- c) The decreasing gravity relieves the main rotor and the helicopter cabin
- d) The flight velocity shall be increased to obtain all the kinetic energy

**26. The virtual rotation axis of a rotor is...**

- a) Perpendicular to the hub plane.
- b) Parallel with the main rotor shaft.
- c) Perpendicular to the tip path plane.
- d) Perpendicular to the plane which contains the swash plate.

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## 27. The center of gravity (CG) defines...

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- a) The point on the longitudinal axis or its extension from which the centers of gravity of all masses are referenced.
- b) The point through which the force of gravity is said to act on a mass.
- c) The distance from the datum to the position of a mass.
- d) The product of mass and balance arm.

## 28. Which of the following messages has the highest priority?

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

## 29. Two aeroplanes are flying on crossing tracks. Which one has to divert?

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- a) The aircraft which flies from left to right has the right of priority
- b) The aircraft which flies from right to left has the right of priority
- c) Both have to divert to the left
- d) Both have to divert to the right

## 30. What is the best combination of traits with respect to the individual attitude and behaviour for a pilot?

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- a) Extroverted - stable
- b) Introverted - unstable
- c) Extroverted - unstable
- d) Introverted - stable

## 31. During an approach the aeroplane experiences a windshear with a decreasing tailwind. If the pilot does not make any corrections, how do the approach path and the indicated airspeed (IAS) change?

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- a) Path is lower, IAS increases
- b) Path is higher, IAS decreases
- c) Path is lower, IAS decreases
- d) Path is higher, IAS increases

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**32. Considering the following fuel data, how much trip fuel is required? Fuel for start-up and taxi: 5 L Fuel for take-off and climb: 12 L Fuel for cruise flight: 25 L Fuel for descent, approach and landing: 7 L Fuel for taxi and parking: 3 L Fuel to alternate: 13 L Final reserve fuel: 10 L**

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- a) 75 L
- b) 49 L
- c) 44 L
- d) 52 L

**33. Extensive high pressure areas can be found throughout the year ...**

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- a) Over oceanic areas at latitudes around 30°N/S.
- b) In areas showing extensive lifting processes.
- c) In tropical areas, close to the equator.
- d) In mid latitudes along the polar front

**34. What needs to be observed in conjunction with flying above mountainous terrain?**

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- a) Unexpected changes in weather and turbulence.
- b) Unexpected overspeed faults and vibrations
- c) Carburettor icing in piston engines
- d) Icing conditions over the predicted freezing level

**35. Which are the properties of a Mercator chart?**

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- a) The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- b) The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- c) The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- d) The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines

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

---

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



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**37. Which of the mentioned cockpit instruments is connected to the pitot tube?**

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

**38. Which of the stated relationships between lift and drag applies best for a flying helicopter (lift : drag)?**

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- a) 1 : 45
- b) 1 : 2
- c) 2 : 1
- d) 45 : 1

**39. What is the correct way of acknowledging "You are now entering airspace Delta"?**

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- a) Wilco
- b) Entering
- c) Roger
- d) Airspace Delta

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

---

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

**41. With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air?**

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- a) At the polar front
- b) At the geographic poles
- c) At the subtropical high pressure belt
- d) At the equator

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**42. What does the octane rating or fuel grade describe?**

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- a) Flame front speed
- b) Anti-knock rating
- c) Combustion temperature
- d) Ignition timing

**43. Which instantaneous information can be obtained from ground radar equipment?**

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- a) Airspeed (TAS) and heading
- b) Direction and airspeed (TAS)
- c) Distance and direction
- d) Airspeed (TAS) and distance

**44. How do you call fuel mixtures with a high amount of fuel?**

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- a) Rich
- b) Empty
- c) Full
- d) Lean

**45. What is the call sign of the aerodrome control?**

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

**46. What is the approximate speed of electromagnetic wave propagation?**

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- a) 123000 m/s
- b) 300000 m/s
- c) 123000 km/s
- d) 300000 km/s

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## 47. Which force causes "wind"?

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

## 48. Which altitude marks the lower limit where the 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) 5000 feet
- d) 22000 feet

## 49. Why is the main rotor gearbox a limiting factor in most piston-driven helicopters?

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- a) The electronic monitoring of the gearbox reacts susceptible at high torques
- b) The drive shaft in the gearbox is made of solid material and tends to break at high torques
- c) The supply of oil pressure lubrication in the gearbox is constructed on average loads
- d) The gear wheels will be displaced from each other at high torque and strain the gearbox bearings

## 50. Which type of ice forms by large, supercooled droplets hitting the front surfaces of an aircraft?

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- a) Rime ice
- b) Hoar frost
- c) Mixed ice
- d) Clear ice

## 51. Which hazard arises during a helicopter night flight in blowing snow?

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- a) Engine monitoring displays are scanned with increased attention
- b) Anti-collision light and rotors can cause the "flicker vertigo"
- c) High partial pressures in the human body can cause hyperventilation or autokinesis
- d) High air pressure and low temperatures can clog the "eustachian tube"

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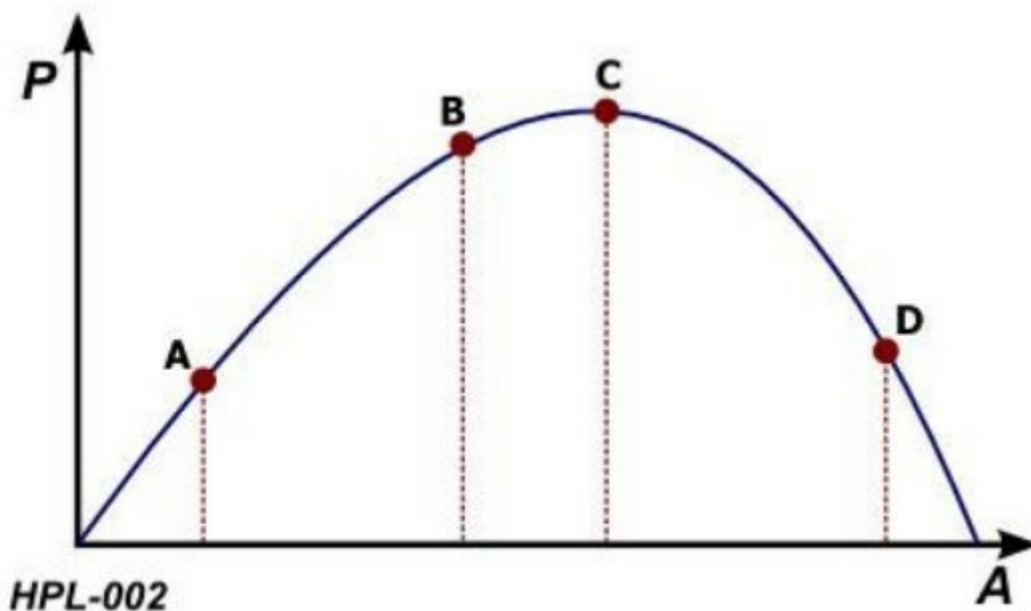


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**52. What is the period of validity of a private pilot license (PPL)?**

- a) Unlimited
- b) 48 months
- c) 24 months
- d) 60 months

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



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

**54. What information can be found in the ATIS, but not in a METAR?**

- a) Operational information such as runway in use and transition level
- b) Information about current weather, for example types of precipitation
- c) Approach information, such as ground visibility and cloud base
- d) Information about mean wind speeds, maximum speeds in gusts if applicable

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

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

**56. A steel or lead rotor blade spar...**

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- a) Prevents high-frequency vibrations to the main rotor system.
- b) Improves the autorotation characteristics by increased inertia.
- c) Is necessary for the connection to the main rotor head.
- d) Holds loads of the uniform lift distribution.

**57. Why does the VNE decrease with increasing pressure altitude?**

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- a) The groundspeed (GS) decreases
- b) The rotor thrust exceeds the permissible structure limitations
- c) The true airspeed (TAS) increases
- d) The tail rotor effectiveness does not provide directional stability

**58. Carbon monoxide poisoning can be caused by...**

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- a) Generator failure
- b) Cracks in the heat exchanger.
- c) Fuel or hydraulic fluids.
- d) Pitot icing.

**59. Given: True course from A to B: 283°. Ground distance: 75 NM. TAS: 105 kt. Headwind component: 12 kt. Estimated time of departure (ETD): 1242 UTC. The estimated time of arrival (ETA) is...**

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- a) 1330 UTC
- b) 1430 UTC
- c) 1356 UTC
- d) 1320 UTC

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**60. 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) 120 NM
- b) 216 NM
- c) 400 NM
- d) 60 NM

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

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

**62. What is the major task of a carburettor?**

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- a) To provide additional fuel to cool the engine
- b) To produce an ignitable air/fuel mixture
- c) To pump fuel from the tanks into the cylinder
- d) To control the aircraft's speed through the throttle valve

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

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

**64. Which movement is caused by the Coriolis effect on the advancing rotor blade?**

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- a) Mass movement outwards
- b) Drag movement forwards
- c) Tilt movement backwards
- d) Flapping downwards

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## 65. What has to be done before entering a TMZ?

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- a) Switch on the transponder, activate mode A, and squawk "IDENT"
- b) Switch on the transponder and activate mode A and C or mode S
- c) File a flight plan before the flight
- d) Request a clearance before entering

## 66. During a flight with a flight plan submitted, landing is conducted at an airfield other than the destination stated in the filed flight plan. Who has to be contacted by the pilot immediately?

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- a) The police department
- b) Aeronautical Information Service (AIS).
- c) The flight manager on duty.
- d) Local office for aerial supervision.

## 67. Which option describes the term "asymmetric airflow"?

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- a) During cruise flight the advancing rotor blade has more airflow than the retreating rotor blade
- b) The displacement of the driving forces to the advancing rotor blade in a vertical autorotation
- c) The difference in required performance during hover in and out of ground effect
- d) The greater lift in the outer region of the rotor as opposed to the inner region

## 68. An autorotation in a mountainous area is performed:

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- a) Downwind under obstacles observance.
- b) Upslope without any yawing.
- c) Downslope with inclined rotor.
- d) Upwind and across the slope.

## 69. Two aircraft of the same type, same grossweight and same configuration fly at different airspeeds. Which aircraft will cause more severe wake turbulence?

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- a) The aircraft flying at lower altitude.
- b) The aircraft flying at slower speed.
- c) The aircraft flying at higher altitude.
- d) The aircraft flying at higher speed.

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## 70. Which answer states a risk factor for diabetes?

---

- a) Alcohol consumption
- b) Sleep deficiency
- c) Smoking
- d) Overweight



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## Response Scheme

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

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

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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: _____ |
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| 17: _____ | 18: _____ | 19: _____ | 20: _____ |
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| 25: _____ | 26: _____ | 27: _____ | 28: _____ |
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| 49: _____ | 50: _____ | 51: _____ | 52: _____ |
| 53: _____ | 54: _____ | 55: _____ | 56: _____ |
| 57: _____ | 58: _____ | 59: _____ | 60: _____ |
| 61: _____ | 62: _____ | 63: _____ | 64: _____ |
| 65: _____ | 66: _____ | 67: _____ | 68: _____ |
| 69: _____ | 70: _____ |           |           |