

# Exam simulation

PPL(H) - Private Pilot License - Aircraft General Knowledge



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STUDENT NAME:

DATE AND TIME:

## 01. How are two parallel runways designated?

- a) The left runway gets the suffix "L", the right runway remains unchanged
- b) The left runway gets the suffix "-1", the right runway "-2"
- c) The left runway remains unchanged, the right runway designator is increased by 1
- d) The left runway gets the suffix "L", the right runway "R"

## 02. Which is the colour of runway end lights?

- a) White
- b) Red
- c) Blue
- d) Green

## 03. The balance arm is the horizontal distance between...

- a) The C.G. of a mass and the datum line.
- b) The C.G. of a mass and the rear C.G. limit.
- c) The front C.G. limit and the datum line.
- d) The front C.G. limit and the rear C.G. limit.

## 04. Wake turbulence is caused by...

- a) Jet blast behind a turbine engine.
- b) Turbulence at the downwind side of a mountain range.
- c) Wind shear at the wingtip of an aerofoil.
- d) Pressure compensation at the wingtip of an aerofoil.

## 05. What information is NOT found on Low-Level Significant Weather Charts (LLSWC)?

- a) Information about icing conditions
- b) Information about turbulence areas
- c) Front lines and frontal displacements
- d) Radar echos of precipitation

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## 06. The transponder code in case of a radio communication failure is...

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

## 07. The term "balance arm" in the context of a mass and balance calculation defines the...

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- a) Point through which the force of gravity is said to act on a mass.
- b) Point on the longitudinal axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
- c) Distance of a mass from the center of gravity.
- d) Distance from the datum to the center of gravity of a mass.

## 08. What information is provided in the part "AD" of the AIP?

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

## 09. Which statement about a rhumb line is correct?

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- a) A rhumb line is a great circle intersecting the the equator with 45° angle.
- b) The center of a complete cycle of a rhumb line is always the Earth's center.
- c) A rhumb line cuts each meridian at the same angle.
- d) The shortest track between two points along the Earth's surface follows a rhumb line

## 10. What is necessary for the determination of speed (IAS) by the airspeed indicator?

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- a) The difference between the dynamic pressure and the static pressure
- b) The difference between the total pressure and the dynamic pressure
- c) The difference between the total pressure and the static pressure
- d) The difference between the standard pressure and the total pressure

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**11. What clouds and weather may result from an humid and instable air mass, that is pushed against a chain of mountains by the predominant wind and forced to rise?**

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- a) Thin Altostratus and Cirrostratus clouds with light and steady precipitation.
- b) Overcast low stratus (high fog) with no precipitation.
- c) Embedded CB with thunderstorms and showers of hail and/or rain.
- d) Smooth, unstructured NS cloud with light drizzle or snow (during winter)

**12. Which is the colour of runway edge lights?**

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- a) White
- b) Blue
- c) Red
- d) Green

**13. The "Certificate of Airworthiness" is issued by the state...**

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- a) In which the airworthiness review is done.
- b) In which the aircraft is constructed.
- c) In which the aircraft is registered.
- d) Of the residence of the owner.

**14. 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.

**15. A vertical speed indicator measures the difference between...**

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- a) Instantaneous total pressure and previous total pressure.
- b) Total pressure and static pressure.
- c) Instantaneous static pressure and previous static pressure.
- d) Dynamic pressure and total pressure.

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**16. Two engine-driven aircraft are flying on crossing courses at the same altitude. Which one has to divert?**

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- a) Both have to divert to the right
- b) The lighter one has to climb
- c) Both have to divert to the left
- d) The heavier one has to climb

**17. The drive system of the autogyro's main rotor is based on...**

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- a) The speed of the airflow.
- b) A fan in the cabin.
- c) An engine in the cabin.
- d) An engine at the rotor blade tip

**18. Which of the following frequencies is designated for VHF voice communication?**

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- a) 118.75 MHz
- b) 327.25 MHz
- c) 327.25 kHz
- d) 118.75 kHz

**19. Air consists of oxygen, nitrogen and other gases. What is the approximate percentage of other gases?**

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

**20. 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

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## 21. Quasi-optical waves travel...

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- a) Through the air directly from the transmitter to the receiver.
- b) Through the air and are influenced (e.g. reflected) by the ionosphere.
- c) Along the surface of the earth.
- d) Along the surface of the earth, but are absorbed by the sea.

## 22. After take-off an aeroplane gets into a wind shear with decreasing headwind. As a result...

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- a) The aeroplane flies below the estimated climb path.
- b) The aeroplane flies above the estimated climb path.
- c) The ground speed (GS) will decrease.
- d) The true airspeed (TAS) will increase.

## 23. Information about pressure patterns and frontal situation can be found in which chart?

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

## 24. How often shall a blind transmission be made?

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- a) One time
- b) Three times
- c) Two times
- d) Four times

## 25. A distance of 7.5 cm on an aeronautical chart represents a distance of 60.745 NM in reality. What is the chart scale?

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- a) 1 : 1 000000
- b) 1 : 150000
- c) 1 : 500000
- d) 1 : 1500000

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## 26. During an autorotation the airspeed is limited by...

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- a) The displacement of the stall regions in the inner area of the rotor blade.
- b) The interference drag during low rates of descent.
- c) The landing gear during the touchdown.
- d) The drift of the driving forces on the returning blade.

## 27. The required data for a mass and balance calculation including masses and balance arms can be found in the...

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- a) Documentation of the annual inspection.
- b) Mass and balance section of the pilot's operating handbook of this particular aircraft.
- c) Performance section of the pilot's operating handbook of this particular aircraft.
- d) Certificate of airworthiness.

## 28. The pressure at MSL in ISA conditions is...

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

## 29. 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.

## 30. Which process may result in an inversion layer at about 5000 ft (1500 m) height?

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- a) Widespread descending air within a high pressure area
- b) Intensive sunlight insolation during a warm summer day
- c) Ground cooling by radiation during the night
- d) Advection of cool air in the upper troposphere

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## 31. What is the subject of ICAO Annex 1?

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- a) Flight crew licensing
- b) Rules of the air
- c) Air traffic services
- d) Operation of aircraft

## 32. The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the...

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- a) Heading of 0°.
- b) Inclination of 0°.
- c) Variation of 0°.
- d) Deviation of 0.

## 33. In a METAR, "heavy rain" is designated by the identifier...

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- a) RA
- b) .+RA.
- c) SHRA.
- d) .+SHRA.

## 34. A frequency of 119.500 MHz is correctly transmitted as...

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- a) One one niner tousand decimal five zero.
- b) One one niner decimal five zero zero.
- c) One one niner decimal five zero.
- d) One one niner decimal five.

## 35. Which pressure is sensed by the Pitot tube?

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- a) Dynamic air pressure
- b) Cabin air pressure
- c) Static air pressure
- d) Total air pressure

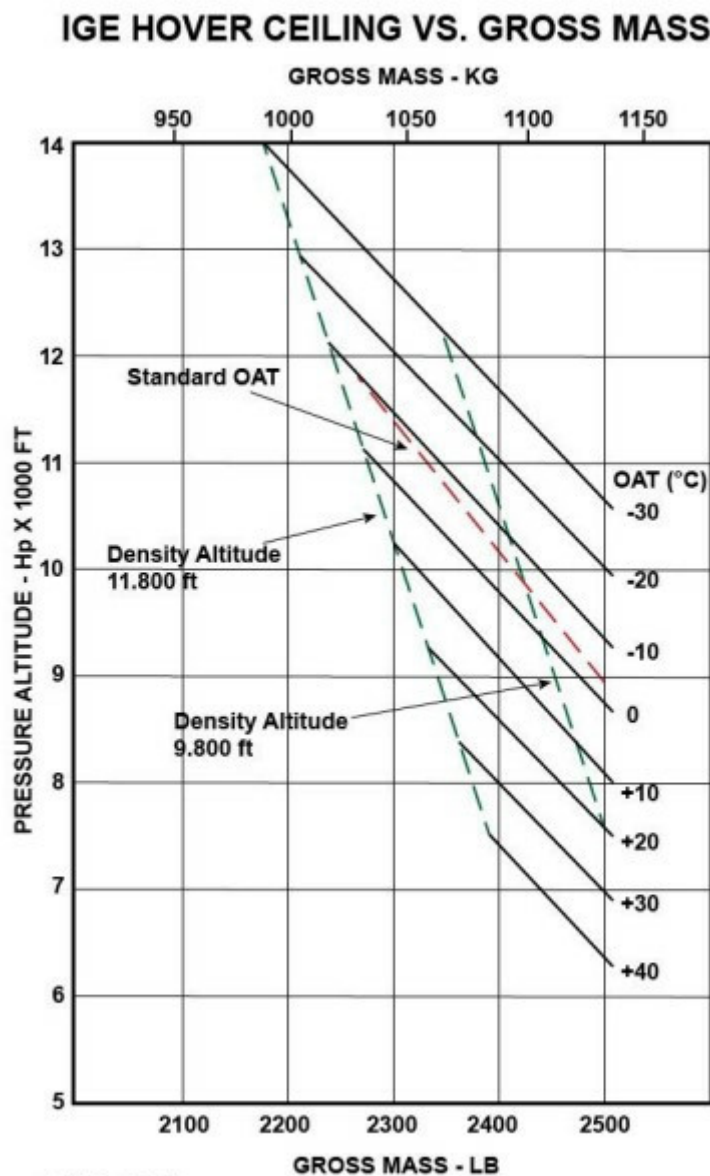
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36. What is the maximum helicopter mass to conduct a hover in ground effect at 9000 feet pressure altitude and an outside air temperature of +10° C? See annex (PFP-045) Siehe Anlage 13



**PFP-045**

- a) 2410 kg
- b) 2410 lb
- c) 2360 kg
- d) 2360 lb

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**37. What is shown on the printed sign? See figure (ALW-020) Siehe Anlage 2**



- a) From this intersection the available runway length is 2500 m in the stated direction
- b) 2500 m in the stated direction till reaching the departure point of the runway
- c) 2500 m in the stated direction till reaching the parking area
- d) The complete length of the runway in the stated direction is 2500 m

**38. When transmitter and receiver are moving towards each other...**

- a) The perceived frequency equals the transmitted frequency.
- b) The perceived frequency decreases.
- c) The perceived frequency increases.
- d) The frequency varies, but the wavelength remains constant.

**39. The term QDR means...**

- a) True bearing from the station to the aircraft.
- b) Magnetic bearing from the aircraft to the station.
- c) True bearing from the aircraft to the station.
- d) Magnetic bearing from the station to the aircraft.

**40. Given values: Calculated take-off mass = 746 kg calculated CG = 37.1 cm fuel burn = 30.5 l on station 45 cm. Where is the CG situated after the landing?**

- a) 37.5 cm
- b) 36.3 cm
- c) 36.9 cm
- d) 37.2 cm

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## 41. What cloud sequence can typically be observed during the passage of a warm front?

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- a) Squall line with showers of rain and thunderstorms (Cb), gusting wind followed by cumulus clouds with isolated showers of rain
- b) Wind becoming calm, dissipation of clouds and warming during summer; formation of extended high fog layers during winter
- c) Cirrus, thickening altostratus and altocumulus clouds, lowering cloud base with rain, nimbostratus
- d) In coastal areas during daytime wind from the coast and forming of cumulus clouds, dissipation of clouds during evening and night

## 42. Under what conditions may class D airspace be entered with a radio failure?

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- a) There are other aircraft in the aerodrome circuit
- b) It is the destination aerodrome
- c) Approval has been granted before
- d) It is the aerodrome of departure

## 43. Which kind of engine is susceptible to carburettor fire?

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- a) Turboprop engines
- b) Turbine engines
- c) Piston engines
- d) Electric motors

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44. What is the distance from VOR Brünkendorf (BKD) (53°02'N, 011°33'E) to Pritzwalk (EDBU) (53°11'N, 12°11'E)?  
See annex (NAV-031) Siehe Anlage 2



- a) 24 km
- b) 42 NM
- c) 24 NM
- d) 42 km

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## 45. Wake turbulence is particularly strong...

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- a) When flying with high thrust.
- b) At a high aeroplane weight.
- c) At a low aeroplane weight.
- d) When flying with low thrust.

## 46. What is the meaning of a steady red light signal at a controlled aerodrome directed to an aircraft on ground?

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- a) Clear the taxiway / runway
- b) Land at this airport and proceed to apron
- c) Return to starting point
- d) Stop

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

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

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

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

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

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

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**50. An aircraft is flying at a pressure altitude of 7000 feet with an outside air temperature (OAT) of +21°C. The QNH altitude is 6500 ft. The true altitude equals...**

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- a) 7000 ft.
- b) 6500 ft.
- c) 6250 ft.
- d) 6750 ft.

**51. Which colour does Avgas 100 LL have?**

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- a) Blue
- b) Yellow
- c) Green
- d) Red

**52. What is the correct term for an involuntary and stereotypical reaction of an organism to the stimulation of a receptor?**

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- a) Reflex
- b) Coherence
- c) Virulence
- d) Reduction

**53. What is the meaning of the abbreviation "IFR"?**

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- a) Instrument Meteorological Conditions
- b) Commercial Flight Rules
- c) Bad Weather Flight Rules
- d) Instrument Flight Rules

**54. What does a readability of 2 indicate?**

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

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**55. Which phrase does a pilot use when he / she wants to check the readability of his / her transmission?**

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- a) Request readability
- b) What is the communication like?
- c) You read me five
- d) How do you read?

**56. What conditions are favourable for the formation of thunderstorms?**

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- a) Warm humid air, conditionally unstable environmental lapse rate
- b) Warm and dry air, strong inversion layer
- c) Clear night over land, cold air and patches of fog
- d) Calm winds and cold air, overcast cloud cover with St or As

**57. Given: True course from A to B: 352°. Ground distance: 100 NM. GS: 107 kt. Estimated time of departure (ETD): 0933 UTC. The estimated time of arrival (ETA) is...**

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- a) 1045 UTC.
- b) 1029 UTC.
- c) 1146 UTC
- d) 1129 UTC

**58. The maximum endurance with a helicopter is achieved by flying at...**

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- a) A lower speed than for maximum range and at the lowest altitude that is safely possible.
- b) The same speed as for maximum range and at optimum height.
- c) A lower speed than for maximum range and at the service ceiling.
- d) A higher speed than for maximum range and at the lowest altitude that is safely possible.

**59. 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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**60. What are the variable physical properties of the atmosphere that affect the helicopter performance?**

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- a) Temperature, pressure, and carbon content
- b) Temperature, pressure, and humidity
- c) Pressure, humidity, and specific gravity
- d) Pressure, humidity, and nitrogen content

**61. What danger is most imminent during an approach to an airfield situated in a valley, with strong wind aloft blowing perpendicular to the mountain ridge?**

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- a) Heavy downdrafts within rainfall areas below thunderstorm clouds
- b) Reduced visibility, maybe loss of sight to the airfield during final approach
- c) Formation of medium to heavy clear ice on all aircraft surfaces
- d) Wind shear during descent, wind direction may change by 180°

**62. Given: True course: 255°. TAS: 100 kt. Wind: 200°/10 kt. The true heading equals...**

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- a) 250°
- b) 265°
- c) 275°.
- d) 245°.

**63. What is the ISA standard pressure at FL 180 (5500 m)?**

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- a) 250 hPa
- b) 300 hPa
- c) 500 hPa
- d) 1013.25 hPa

**64. The airframe of an accelerating helicopter continues to bend until the...**

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- a) Horizontal thrust component equals the drag.
- b) Thrust passes in front of the centre of gravity.
- c) Vertical thrust component equals the drag.
- d) Thrust passes behind the centre of gravity.

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**65. The EOBT (estimated off-block time) is specified in the ATS flight plan as...**

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- a) Coordinated Universal Time (UTC).
- b) Local Mean Time (LMT).
- c) Standard Time (ST).
- d) Central European Time (CET).

**66. An altitude of 4500 ft is transmitted as...**

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

**67. Clouds are basically distinguished by what types?**

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- a) Layered and lifted clouds
- b) Cumulus and stratiform clouds
- c) Thunderstorm and shower clouds
- d) Stratiform and ice clouds

**68. Which of the following is NOT a risk factor for hypoxia?**

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- a) Smoking
- b) Diving
- c) Menstruation
- d) Blood donation

**69. A delta-three hinge is used to allow...**

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- a) For a decreased pitch angle at an upwards flapping blade.
- b) The advancing blade to flap up about the hinge.
- c) The advancing blade to lead about the hinge.
- d) The advancing blade to drag about the hinge.

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**70. In flight, a little smoke emerges from behind the instrument panel. An engine fire is suspected. Which action, with respect to the pilot's operating manual, should be taken?**

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- a) Turn off the master switch
- b) Turn off the heat
- c) Shut down the engine
- d) Use the fire extinguisher

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## Response Scheme

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

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

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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: _____		