

Exam simulation

PPL(H) - Private Pilot License - Principles of Flight (Helicopter)



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STUDENT NAME:

DATE AND TIME:

01. An aerodrome beacon (ABN) is a...

- a) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air.
- b) Rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the ground.
- c) Rotating beacon installed at the beginning of the final approach to indicate its location to aircraft pilots from the air.
- d) Fixed beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air.

02. The transitional lift can be noticed by...

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

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

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

04. What happens to thrust and tangential force if the rotor RPM decreases by about 10 % in cruise flight?

- a) The thrust and the tangential force decrease
- b) The thrust and the tangential force increase
- c) The thrust decreases and the tangential force remains constant
- d) The thrust remains constant and the tangential force increases

05. The majority of aviation accidents are caused by...

- a) Geographical influences
- b) Meteorological influences
- c) Human failure
- d) Technical failure

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06. What is the advantage of a turbulent airflow compared to a laminar airflow at an aerofoil with a high angle of attack?

- a) It has a thinner boundary layer
- b) It has no form drag
- c) The separation point moves further forward
- d) It adheres to the aerofoil for a longer time

07. What does a readability of 3 indicate?

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

08. What situation may result in the occurrence of severe wind shear?

- a) Flying ahead of a warm front with visible Ci clouds
- b) Cross-country flying below Cu clouds with about 4 octas coverage
- c) During final approach, 30 min after a heavy shower has passed the airfield
- d) When a shower is visible close to the airfield

09. The progress of an electromagnetic oscillation can be described by the...

- a) Frequency angle.
- b) Wave angle.
- c) Phase angle.
- d) Amplitude angle.

10. The sun moves 10° of longitude. What is the difference in time?

- a) 0.4 h
- b) 0.66 h
- c) 0.33 h
- d) 1 h

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11. What is the correct phrase with respect to wake turbulence to indicate that a light aircraft is following an aircraft of a higher wake turbulence category?

- a) Caution wake turbulence
- b) Danger jet blast
- c) Be careful wake winds
- d) Attention propwash

12. The approximate propagation speed of electromagnetic waves is...

- a) 300000 km/s.
- b) 300000 m/s.
- c) 300000 NM/s
- d) 300000 ft/s.

13. Which Q-code is used for the true bearing to the station?

- a) QTE
- b) QDR
- c) QUJ
- d) QDM

14. Which statement is correct with regard to the short-term memory?

- a) It can store 3 (± 1) items for 5 to 10 seconds
- b) It can store 5 (± 2) items for 1 to 2 minutes
- c) It can store 10 (± 5) items for 30 to 60 seconds
- d) It can store 7 (± 2) items for 10 to 20 seconds

15. Which gas is most dangerous during an engine fire?

- a) Nitrogen
- b) Carbon monoxide
- c) Carbon dioxide
- d) Oxygen

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16. Wake turbulence is particularly strong...

- a) When flying at low speeds.
- b) When flying at high altitudes.
- c) When flying at low altitudes.
- d) When flying at high speeds.

17. Which actions should be taken if the orientation is lost during helicopter flight operations?

- a) Return to the departure aerodrome and reorientate from there
- b) Continue the flight in any direction until the navigation can be resumed
- c) Continue with planned heading to the next interception line and reorientate from there
- d) According the Warsaw convention orientation triangles must be flown

18. What has to be considered during refueling?

- a) Apply ground wires, turn on the main switch and magneto ignition
- b) No open fires, obey smoking ban and apply ground cables
- c) Check the fuel content of the tank with a torch and remove fire protection
- d) Refuel through a soaked rag and keep a fire extinguisher available

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

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

20. Carbon monoxide poisoning can be caused by...

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

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21. Vienna (LOWW) is located at 016° 34'E, Salzburg (LOWS) at 013° 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 14 minutes earlier than in Salzburg
- b) In Vienna the sunrise is 4 minutes later and sunset is 4 minutes earlier than in Salzburg
- c) In Vienna the sunrise and sunset are about 4 minutes later than in Salzburg
- d) In Vienna the sunrise is 14 minutes earlier and sunset is 14 minutes later than in Salzburg

22. Which of the following options are possible SSR-Transponder modes?

- a) B, R, S
- b) A, C, R
- c) A, C, S
- d) B, C, V

23. Given: True course from A to B: 250°. Ground distance: 210 NM. TAS: 130 kt. Headwind component: 15 kt. Estimated time of departure (ETD): 0915 UTC. The estimated time of arrival (ETA) is...

- a) 1005 UTC.
- b) 1105 UTC.
- c) 1052 UTC.
- d) 1115 UTC.

24. If the critical angle of attack is exceeded, the...

- a) Transition point starts moving towards the airflow direction
- b) Boundary layer on the upper side of the rotor blade begins to separate
- c) Boundary layer on the lower side of the rotor blade begins to separate
- d) Laminar boundary layer turns into a turbulent boundary layer

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

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

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

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

27. Which components do rotor blades made of synthetic material contain?

- a) Spar of lead and synthetic material, filling material and outer skin of synthetic material, erosion protection of stainless steel
- b) Spar of synthetic material, filling material and outer skin of synthetic material, erosion protection of aluminum
- c) Spar of aluminum and synthetic material, filling material and outer skin and erosion protection of synthetic material
- d) Spar of stainless steel, filling material and outer skin and erosion protection of synthetic material

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

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

29. In airspace "D" a Boeing 737 and a Cessna 152 are flying on crossing courses. Which aeroplane has to divert?

- a) The aeroplane flying from right to left has priority, the other one has to divert
- b) The Boeing 737, because an airliner has greater power reserves
- c) The air traffic control (ATC) has to decide which one has to divert
- d) The Cessna 152, because IFR and commercial flights have priority

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30. (For this question, please use annex PFP-063) According to ICAO, what symbol indicates a general spot elevation?

- A 300
- B (300)
- C • 1737
- D • 1737

PFP-063

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

31. Given: Ground speed (GS): 160 kt. True course (TC): 177°. Wind vector (W/WS): 140°/20 kt. The true heading (TH) equals...

- a) 173°.
- b) 169°
- c) 180°.
- d) 184°.

32. How do dew point and relative humidity change with decreasing temperature?

- a) Dew point decreases, relative humidity increases
- b) Dew point remains constant, relative humidity increases
- c) Dew point increases, relative humidity decreases
- d) Dew point remains constant, relative humidity decreases

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33. What factors may indicate a tendency to fog formation?

- a) Low spread, increasing temperature
- b) Low pressure, increasing temperature
- c) Strong winds, decreasing temperature
- d) Low spread, decreasing temperature

34. Urgency messages are messages...

- a) Sent by a pilot or an aircraft operating agency which have an imminent meaning for aircraft in flight.
- b) Concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- c) Concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.
- d) Concerning the operation or maintenance of facilities essential for the safety or regularity of aircraft operation.

35. A single-engine piston and a turboprop aeroplane are approaching each other opposite at the same altitude. Which aeroplane has to change its track to avoid a collision?

- a) Both aircraft have to alter their tracks to the left
- b) The turboprop aircraft has to give way to the single-engine piston aircraft
- c) The single-engine piston aircraft has to give way to the turboprop aircraft
- d) Both aircraft have to alter their tracks to the right

36. Which of the instruments listed below obtain their readings through pressure measurement?

- a) Oil pressure gauge, fuel pressure gauge, manifold pressure gauge, altimeter, vertical speed indicator, airspeed indicator, suction gauge
- b) Oil pressure gauge, fuel pressure gauge, fuel quantity gauge, manifold pressure gauge, differential pressure gauge, altimeter
- c) Airspeed indicator, vertical speed indicator, altimeter, directional gyro, turn and bank coordinator, oil pressure gauge, fuel pressure gauge
- d) Airspeed indicator, vertical speed indicator, altimeter, magnetic compass, oil pressure gauge, fuel pressure gauge

37. The trim is used to...

- a) Adapt the control force.
- b) Lock control elements.
- c) Move the centre of gravity.
- d) Increase adverse yaw.

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38. What needs to be observed regarding ice formation during the flight?

- a) An increase in mass and drag and a significant lift reduction
- b) An increase in both drag and lift coefficient due to a mass increase
- c) An increase in mass and a decrease in drag
- d) An increase in mass and a reduced rate of descent

39. In what case is the pilot allowed to abbreviate the call sign of his aircraft?

- a) Within controlled airspace
- b) If there is little traffic in the traffic circuit
- c) After passing the first reporting point
- d) After the ground station has used the abbreviation

40. What impression may be caused when approaching a runway with an upslope?

- a) A landing beside the centerline
- b) An overshoot
- c) An undershoot
- d) A hard landing

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

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

42. Which of the following symptoms may indicate hypoxia?

- a) Blue discoloration of lips and fingernails
- b) Muscle cramps in the upper body area
- c) Blue marks all over the body
- d) Joint pain in knees and feet

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

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

44. What condition may prevent the formation of "radiation fog"?

- a) Overcast cloud cover
- b) Low spread
- c) Calm wind
- d) Clear night, no clouds

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

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

46. The reason for a stall at a given pitch angle can be...

- a) Constant peripheral speed and great vertical airflow through the rotor
- b) Smaller vertical airflow through the rotor and constant peripheral speed
- c) Smaller effective angle of attack and small peripheral speed
- d) Smaller frontal resistance and turbulent airflow

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

- 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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48. Given: QDR: 022° VAR: 10° E The QTE equals...

- a) 052°
- b) 212°
- c) 032°
- d) 202°

49. Which light colour advises the pilot to the condition "corrective action may be required in the future"?

- a) Green
- b) Red
- c) Amber (orange)
- d) Blue

50. Which rotor blade material enables the construction of hingeless rotor heads?

- a) Aluminium
- b) Titan
- c) Timber
- d) Plastic

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

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

52. Being intercepted by a military aircraft at daytime, what is the meaning of the following signal: Alternating movement of the ailerons, normally left of the intercepted aircraft, followed by a smooth turn to the left?

- a) Prepare for a safety landing, you have entered a prohibited area
- b) You are clear of any restricted or reserved airspaces, you can continue on your heading
- c) You are entering a restricted area, leave the airspace immediately
- d) Follow me

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53. Weather phenomena are most common to be found in which atmospheric layer?

- a) Troposphere
- b) Tropopause
- c) Stratosphere
- d) Thermosphere

54. Under which circumstances is it more likely to accept higher risks?

- a) Due to group-dynamic effects
- b) During check flights due to a high level of nervousness
- c) During flight planning when excellent weather is forecast
- d) If there is not enough information available

55. Which abbreviation is used for the term "abeam"?

- a) ABM
- b) ABE
- c) ABA
- d) ABB

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

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

57. Which are the properties of a Mercator chart?

- 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

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58. An increase of stability in a helicopter causes...

- a) A decrease of general aviation safety
- b) A reduced controllability
- c) An optimization of the maximum helicopter mass
- d) An enhancement of control under negative load factors

59. In what case is visibility transmitted in meters?

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

60. Winds blowing uphill are defined as...

- a) Subsident winds.
- b) Katabatic winds.
- c) Convergent winds.
- d) Anabatic winds.

61. What is referred to as mountain wind?

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

62. The bank angle of a 2-minutes circle depends on the...

- a) CAS.
- b) TAS.
- c) IAS.
- d) Ground speed.

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63. During a flight in colder-than-ISA air the indicated altitude is...

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

64. Air traffic control service is conducted by which services?

- a) FIS (flight information service) AIS (aeronautical information service) AFS (aeronautical fixed telecommunication service)
- b) APP (approach control service) ACC (area control service) FIS (flight information service)
- c) TWR (aerodrome control service) APP (approach control service) ACC (area control service)
- d) ALR (alerting service) SAR (search and rescue service) TWR (aerodrome control service)

65. The validity of a medical examination certificate class 2 for a 62 years old pilot is...

- a) 12 Months.
- b) 48 Months.
- c) 24 Months.
- d) 60 Months.

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

- 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.

67. Given: QDR: 067° VAR: 5° E The QDM equals...

- a) 072°
- b) 247°
- c) 257°
- d) 252°

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68. Distress messages contain...

- a) Information concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance
- b) Information concerning urgent spare parts which are required for a continuation of flight and which have to be ordered in advance.
- c) Information concerning the apron personell and which imply an imminent danger to landing aircraft.
- d) Information concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.

69. Given: QDM: 134° VAR: 5° W The QTE equals...

- a) 314°.
- b) 129°.
- c) 309°.
- d) 299°.

70. What pressure pattern can be observed during the passage of a polar front low?

- a) Falling pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- b) Rising pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- c) Rising pressure in front of the warm front, rising pressure within the warm sector, falling pressure behind the cold front
- d) Falling pressure in front of the warm front, constant pressure within the warm sector, falling pressure behind the cold front

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Response Scheme

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

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