PPL(A) - Private Pilot License - Human factor and limitations



| STUDENT NAME: | DATE AND TIME: |
|--|----------------|
| | |
| | |
| 01. Wake turbulences develop during take-off just as the aeroplane | |

- a) Reaches an altitude of 15 ft.
- b) Lifts off with the main gear.
- c) Lifts off with the front gear.
- d) Accelerates

02. Visual illusions are mostly caused by...

- a) Rapid eye movements.
- b) Misinterpretation of the brain.
- c) Colour blindness.
- d) Binocular vision.

03. The movement of air flowing together is called...

- a) Convergence
- b) Divergence
- c) Soncordence
- d) Subsidence

04. Loads must be adequately secured in order to...

- a) Carry extra fuel
- b) Allow steep turns
- c) Avoid any centre of gravity (C.G.) movements
- d) Prevent excessive 'g'-loading during the landing flare

05. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125?

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

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06. Which area is suitable for an off-field landing?

- a) Harvested cornfield
- b) Glade with long dry grass
- c) Plowed field
- d) Sports area in a village

07. What is the correct way to transmit the call sign OE-JVK?

- a) Omega Echo Jankee Victor Kilo
- b) Oscar Echo Jankee Victor Kilogramm
- c) Oscar Echo Juliett Victor Kilo
- d) Oscar Echo Juliett Victor Kias

08. What is a latent error?

- a) An error which is made by the pilot actively and consciously
- b) An error which only has consequences after landing
- c) An error which remains undetected in the system for a long time
- d) An error which has an immediate effect on the controls

09. What is the meaning of a flashing green light signal at a controlled aerodrome directed to an aircraft in flight?

- a) Return for landing, followed by steady green at the appropriate time
- b) Cleared to land
- c) Give way to other aircraft and continue circling
- d) Airport unsafe, do not land

10. How does the pilot prepare for a VFR flight over a large distance of water, when it is unlikely that land can be reached in case of an engine failure?

- a) File a flight plan including the exact way-points
- b) Be prepared to fly with transponder only
- c) Carry life vests or a life raft for all occupants.
- d) Maintain continuous radio contact with ATC.

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11. The load factor "n" describes the relationship between...

- a) Thrust and drag.
- b) Drag and lift.
- c) Lift and weight.
- d) Weight and thrust.

12. The speed VFE is defined as...

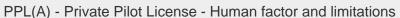
- a) Stalling or minimum steady flight speed with the flaps retracted.
- b) Stalling or minimum steady flight speed with the flaps retracted.
- c) Stalling or minimum steady flight speed with the flaps extended.
- d) Maximum landing gear extended speed

13. About how many axes does an aircraft move and how are these axes called?

- a) 4; optical axis, imaginary axis, sagged axis, axis of evil
- b) 4; vertical axis, lateral axis, longitudinal axis, axis of speed
- c) 3; x-axis, y-axis, z-axis
- d) 3; vertical axis, lateral axis, longitudinal axis

14. Extensive high pressure areas can be found throughout the year ...

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





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15. (For this question, please use annex PFP-063) According ICAO, what symbol indicates a general spot elevation? (2,00 P.) Siehe Anlage 24

A 300

B (300)

C · 1737

D · 1737

PFP-063

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

16. Which phrase is used by a pilot when he wants to fly through controlled airspace?

- a) Apply
- b) Want
- c) Would like
- d) Request

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17. 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?

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

18. The term "datum" with regard to a mass and balance calculation defines...

- a) The point on the lateral axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
- b) The point on the vertical axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
- c) The point on the longitudinal axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
- d) The distance from the reference plane to the center of gravity of an aircraft.

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

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

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

- a) Little sleep.
- b) Alcohol
- c) Smoking.
- d) Unhealthy food.

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

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22. A pilot wants to take off on runway 36, the reported wind is 240 degrees 12 knots. What are the wind components acting on the aircraft on take-off and landing?

- a) Crosswind from the right 10.4 kt. Tailwind 6 kt.
- b) Crosswind from the right 6 kt. Headwind 10.4 kt.
- c) Crosswind from the left 10.4 kt. Tailwind 6 kt.
- d) Crosswind from the left 6 kt. Tailwind 10.4 kt.

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

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

24. Which answer contains every state of water found in the atmosphere?

- a) Liquid and solid
- b) Liquid, solid, and gaseous
- c) Gaseous and liquid
- d) Liquid

25. What weather is likely to be experienced during "Foehn" in the Bavarian area close to the alps?

- a) High pressure area overhead Biskaya and low pressure area in Eastern Europe
- b) Cold, humid downhill wind on the lee side of the alps, flat pressure pattern
- c) Nimbostratus cloud in the northern alps, rotor clouds at the windward side, warm and dry wind
- d) Nimbostratus cloud in the southern alps, rotor clouds at the lee side, warm and dry wind

26. What is the minimum flight visibility in airspace "E" for an aircraft operating under VFR at FL75?

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

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

| a) | Α, | C, | S |
|----|----|----|---|
|----|----|----|---|

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

28. "Longitudinal stability" is referred to as stability around which axis?

- a) Propeller axis
- b) Vertical axis
- c) Longitudinal axis
- d) Lateral axis

29. How is an air mass described when moving to Central Europe via the Russian continent during winter?

- a) Maritime tropical air
- b) Continental tropical air
- c) Continental polar air
- d) Maritime polar air

30. Which factor shortens landing distance?

- a) High pressure altitude
- b) Strong head wind
- c) Heavy rain
- d) High density altitude

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

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

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32. Which constructive feature has the purpose to reduce stearing forces?

- a) T-tail
- b) Vortex generators
- c) Differential aileron deflection
- d) Aerodynamic rudder balance

33. On what frequency shall a blind transmission be made?

- a) On the appropriate FIS frequency
- b) On a radar frequency of the lower airspace
- c) On the current frequency
- d) On a tower frequency

34. What is the principle of a Fowler flap?

- a) A profile-like flap is extended from the trailing edge of the wing
- b) A flap from the rear bottom side of the wing is folded down
- c) At high angles of attack a part of the leading edge lifts
- d) At high angles of attack a part of the leading edge lifts

35. The range of a VOR is affected by...

- a) Daylight interference
- b) Reflected sky waves.
- c) Multipath propagation of the ground wave
- d) Transmitter and receiver altitude.

36. What pattern can be found at the stagnation point?

- a) The boundary layer starts separating on the upper surface of the profile
- b) The laminar boundary layer changes into a turbulent boundary layer
- c) All aerodynamic forces can be considered as attacking at this single point
- d) Streamlines are divided into airflow above and below the profile

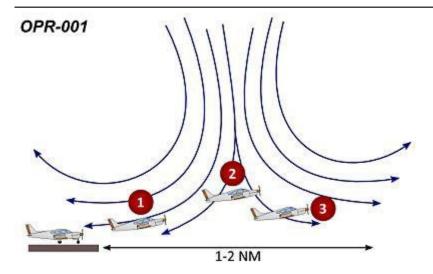
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37. Given: True course from A to B: 352°. Ground distance: 100 NM. GS: 107 kt. Estimated time of departure (ETD): 0933 UTC. The estimated time of arrival (ETA) is...

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

38. Which phenomenon may be expected at point 2 of the microburst? See figure (OPR-001) (1,00 P.) Siehe Anlage



- a) Constant rate of descent
- b) Decrease of descent rate
- c) Increase of airspeed
- d) Decrease of climb rate

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

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

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

| a) Sixteen twenty |
|-------------------|
|-------------------|

- b) Two zero
- c) One tousand six hundred two zero
- d) One six two zero

41. Wake turbulence is particularly strong...

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

42. Raise the nose to decrease airspeed

- a) During recovery the ailerons should be kept neutral
- b) Only very old aeroplanes have a risk of spinning
- c) During recovery the ailerons should be crossed
- d) During the spin the speed constantly increases

43. Which type of ice forms by very small water droplets and ice crystals hitting the front surfaces of an aircraft?

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

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

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

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

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

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

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

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

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

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

- a) Visibilty less than 1000 m, cloud-covered ground
- b) Good visibility, some isolated high clouds
- c) Moderate to good visibility, scattered clouds
- d) Moderate visibility, heavy showers and thunderstorms

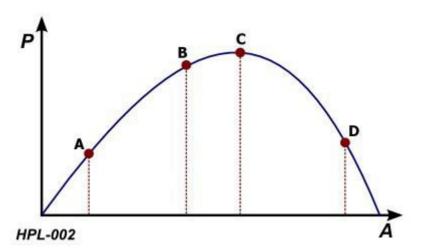
49. What kind of drag is NOT part of the parasite drag?

- a) Interference drag
- b) Skin-friction drag
- c) Induced drag
- d) Form drag

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50. Which answer is correct concerning stress?



- a) Stress can occur if there seems to be no solution for a given problem
- b) Training and experience have no influence on the occurence of stress
- c) Stress and its different symptoms are irrelevant for flight safety
- d) Everybody reacts to stress in the same manner

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

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

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

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53. After lift-off, a much stronger than expected airspeed rise is experienced during the initial climb phase. What may be expected if the aeroplane entered a microburst?

- a) An increased climb rate and decreased airspeed
- b) An increased climb rate and airspeed
- c) A decreased climb rate and airspeed
- d) A decreased climb rate and increased airspeed

54. Regarding the type of cloud, precipitation is classified as...

- a) Light and heavy precipitation.
- b) Showers of snow and rain
- c) Prolonged rain and continuous rain.
- d) Rain and showers of rain.

55. 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) 60 NM
- b) 400 NM
- c) 120 NM
- d) 216 NM

56. Which design feature can compensate for adverse yaw?

- a) Wing dihedral
- b) Full deflection of the aileron
- c) Aileron trim
- d) Differential aileron defletion

57. May an engine, which previously was on fire, be restarted?

- a) No, the risk of a reignition of the fire would be too high
- b) Yes, if the aircraft is flying at a safe altitude
- c) Yes, but only on the ground for the purpose of taxiing
- d) Yes, but only if the cause of the fire was a carburettor fire during engine start

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58. A movement around the longitudinal axis is primarily initiated by the...

- a) Rudder
- b) Ailerons
- c) Elevator
- d) Trim tab

59. What should be observed when taxiing behind a commercial airliner?

- a) To avoid wake turbulence, a minimum distance of 700 m should be maintained
- b) To avoid the jet blast, a minimum distance of 600 m should be maintained
- c) To avoid wake turbulence, a minimum distance of 300 m should be maintained
- d) To avoid the jet blast, a minimum distance of 200 m should be maintained

60. What is an appropriate reaction when a passenger during cruise flight suddenly feels uncomfortable?

- a) Adjust cabin temperature and prevent excessive bank
- b) Give additional oxygen and avoid low load factors
- c) Avoid conversation and choose a higher airspeed
- d) Switch on the heater blower and provide thermal blankets

61. In what situation is it appropriate to set the transponder code 7600?

- a) Hijacking
- b) Emergency
- c) Flight into clouds
- d) Loss of radio

62. The center of gravity has to be located...

- a) Between the front and the rear C.G. limit.
- b) Behind the rear C.G. limit.
- c) In front of the front C.G. limit
- d) Right of the lateral C. G. limit.

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

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

64. The position of the center of gravity (including fuel) equals... See figure(PFP-053e) (1,00 P.) Siehe Anlage 2

PFP-053e

| ITEM | MASS | ARM |
|---------------------|--------|--------|
| Basic Empty Mass | 560 kg | 0,35 m |
| Pilot and Passenger | 150 kg | 0,4 m |
| Baggage | 15 kg | 0,65 m |
| Fuel | 60 I | 0,45 m |

- a) 37.1 cm
- b) 0.401 m
- c) 37.3 cm
- d) 0.403 m.

65. How do induced drag and parasite drag change with increasing airspeed during a horizontal and stable cruise flight?

- a) Induced drag decreases and parasite drag increase
- b) Parasite drag decreases and induced drag increases
- c) Parasite drag decreases and induced drag decreases
- d) Induced drag increases and parasite drag increases

66. Which factor can lead to human error?

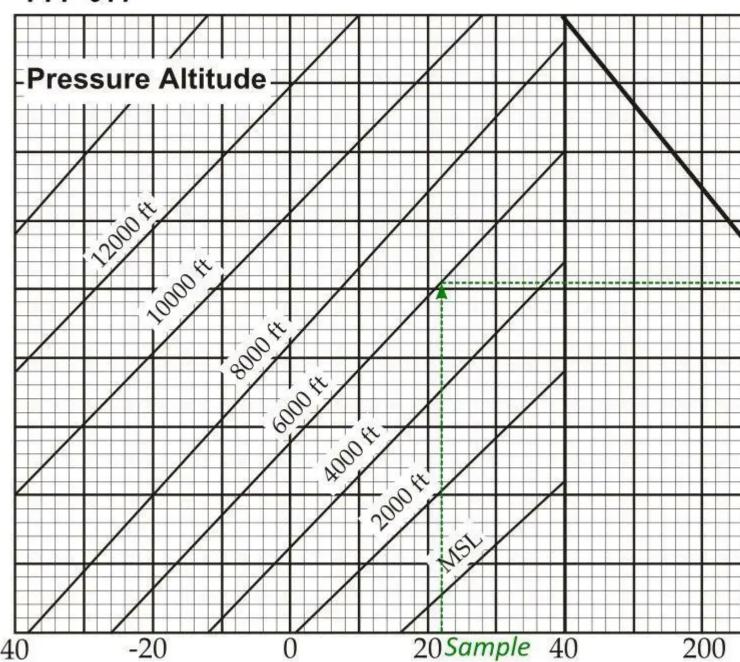
- a) Double check of relevant actions
- b) Proper use of checklists
- c) To be doubtful if something looks unclear or ambiguous
- d) The bias to see what we expect to see

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67. Which is the maximum rate of climb for the aircraft at 6500 ft pressure altitude and an OAT of 0° C? See annex (PFP-

PFP-011



Outside Air Temperature [°C]

Rat

- a) 480 ft / min
- b) 400 ft / min
- c) 520 ft / min
- d) 800 ft / min

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68. The connection between middle ear and nose and throat region is called...

- a) Eardrum
- b) Cochlea
- c) Inner ear.
- d) Eustachian tube.

69. With other factors remaining constant, decreasing temperature results in...

- a) Decreasing spread and decreasing relative humidity.
- b) Increasing spread and decreasing relative humidity.
- c) Increasing spread and increasing relative humidity.
- d) Decreasing spread and increasing relative humidity.

70. SIGMET warnings are issued for...

- a) Specific routings.
- b) Airports
- c) FIRs / UIRs
- d) Countries

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

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

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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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