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## Part-FCL Question Bank

# PPL(A)

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*and*

*AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 20 – Human Performance and Limitations

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**1 The majority of aviation accidents are caused by... (1,00 P.)**

- ☐ technical failure.
- ☐ meteorological influences.
- ☐ geographical influences.
- ☒ human failure.

**2 The "swiss cheese model" can be used to explain the... (1,00 P.)**

- ☒ error chain.
- ☐ procedure for an emergency landing.
- ☐ optimal problem solution.
- ☐ state of readiness of a pilot.

**3 What is the percentage of oxygen in the atmosphere at 6000 ft? (1,00 P.)**

- ☒ 21 %
- ☐ 12 %
- ☐ 78 %
- ☐ 18.9 %

**4 What is the percentage of nitrogen in the atmosphere? (1,00 P.)**

- ☐ 1 %
- ☐ 21 %
- ☒ 78 %
- ☐ 0.1 %

**5 At which altitude is the atmospheric pressure approximately half the MSL value (1013 hPa)? (1,00 P.)**

- ☒ 18000 ft
- ☐ 5000 ft
- ☐ 10000 ft
- ☐ 22000 ft

**6 Air consists of oxygen, nitrogen and other gases.**

**What is the approximate percentage of other gases? (1,00 P.)**

- ☐ 0.1 %
- ☐ 78 %
- ☒ 1 %
- ☐ 21 %

**7 Carbon monoxide poisoning can be caused by... (1,00 P.)**

- ☐ little sleep.
- ☐ alcohol.
- ☒ smoking.
- ☐ unhealthy food.

**8 What does the term "Red-out" mean? (1,00 P.)**

- ☒ "Red vision" during negative g-loads
- ☐ Rash during decompression sickness
- ☐ Anaemia caused by an injury
- ☐ Falsified colour perception during sunrise and sunset

**9 Carbon monoxide poisoning can be caused by... (1,00 P.)**

- ☐ fuel or hydraulic fluids.
- ☐ generator failure.
- ☒ cracks in the heat exchanger.
- ☐ Pitot icing.

**10 Which of the following is NOT a symptom of hyperventilation? (1,00 P.)**

- ☒ Cyanose
- ☐ Tingling
- ☐ Spasm
- ☐ Disturbance of consciousness

**11 Which of the following symptoms may indicate hypoxia? (1,00 P.)**

- ☐ Joint pain in knees and feet
- ☐ Muscle cramps in the upper body area
- ☒ Blue discolouration of lips and fingernails
- ☐ Blue marks all over the body

**12 Which of the human senses is most influenced by hypoxia? (1,00 P.)**

- ☐ The olfactory perception (smell)
- ☐ The tactile perception (sense of touch)
- ☐ The auditory perception (hearing)
- ☒ The visual perception (vision)

**13 From which altitude on does the body usually react to the decreasing atmospheric pressure? (1,00 P.)**

- ☐ 2000 feet
- ☒ 7000 feet
- ☐ 10000 feet
- ☐ 12000 feet

**14 Which altitude marks the lower limit where the the body is unable to completely compensate the effects of the low atmospheric pressure? (1,00 P.)**

- ☒ 12000 feet
- ☐ 22000 feet
- ☐ 5000 feet
- ☐ 7000 feet

**15 What is the function of the red blood cells (erythrocytes)? (1,00 P.)**

- ☒ Oxygen transport
- ☐ Blood coagulation
- ☐ Immune defense
- ☐ Blood sugar regulation

**16 Which of the following is responsible for the blood coagulation? (1,00 P.)**

- ☐ Red blood cells (erythrocytes)
- ☐ Capillaries of the arteries
- ☐ White blood cells (leucocytes)
- ☒ Blood plates (thrombocytes)

**17 What is the function of the white blood cells (leucocytes)? (1,00 P.)**

- ☐ Oxygen transport
- ☐ Blood coagulation
- ☐ Blood sugar regulation
- ☒ Immune defense

**18 What is the function of the blood platelets (thrombocytes)? (1,00 P.)**

- ☐ Immune defense
- ☒ Blood coagulation
- ☐ Blood sugar regulation
- ☐ Oxygen transport

**19 Which of the following is NOT a risk factor for hypoxia? (1,00 P.)**

- ☐ Smoking
- ☐ Menstruation
- ☐ Blood donation
- ☒ Diving

**20 Anemic hypoxia can be caused by... (1,00 P.)**

- ☒ carbon monoxide poisoning.
- ☐ low pressure.
- ☐ high altitudes.
- ☐ alcohol.

**21 What is an appropriate reaction when a passenger during cruise flight suddenly feels uncomfortable? (1,00 P.)**

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

**22 What is the correct term for an involuntary and stereotypical reaction of an organism to the stimulation of a receptor? (1,00 P.)**

- ☐ Reduction
- ☐ Virulence
- ☐ Coherence
- ☒ Reflex

**23 What is the correct term for the system which, among others, controls breathing, digestion, and heart frequency? (1,00 P.)**

- ☐ Critical nervous system
- ☒ Autonomic nervous system
- ☐ Automatical nervous system
- ☐ Compliant nervous system

**24 What is the parallax error? (1,00 P.)**

- ☐ Long-sightedness due to aging especially during night
- ☒ Wrong interpretation of instruments caused by the angle of vision
- ☐ Misperception of speed during taxiing
- ☐ A decoding error in communication between pilots

**25 Which characteristic is important when choosing sunglasses used by pilots? (1,00 P.)**

- ☒ Non-polarised
- ☐ No UV filter
- ☐ Curved sidepiece
- ☐ Unbreakable

**26 Which part of the visual system is responsible for colour vision? (1,00 P.)**

- ☒ Cones
- ☐ Rods
- ☐ Macula
- ☐ Blind spot

**27 The connection between middle ear and nose and throat region is called... (1,00 P.)**

- ☐ eardrum.
- ☐ cochlea.
- ☐ inner ear.
- ☒ eustachian tube.

**28 In which situation is it NOT possible to achieve a pressure compensation between the middle ear and the environment? (1,00 P.)**

- ☐ During a light and slow climb
- ☐ All windows are completely closed
- ☐ Breathing takes place using the mouth only
- ☒ The eustachien tube is blocked

**29 Wings level after a longer period of turning can lead to the impression of... (1,00 P.)**

- ☐ starting a descent.
- ☐ starting a climb.
- ☐ steady turning in the same direction as before.
- ☒ turning into the opposite direction.

**30 Which of the following options does NOT stimulate motion sickness (disorientation)? (1,00 P.)**

- ☐ Head movements during turns
- ☐ Flying under the influence of alcohol
- ☒ Non-accelerated straight and level flight
- ☐ Turbulence in level flight

**31 An acceleration during a straight horizontal flight can lead to the illusion of... (1,00 P.)**

- ☐ a descent.
- ☒ a climb.
- ☐ an inverted flight.
- ☐ a bank.

**32 A deceleration during a straight horizontal flight can lead to the illusion of... (1,00 P.)**

- ☐ a climb.
- ☒ a descent.
- ☐ a bank.
- ☐ an inverted flight.

**33 Which optical illusion might be caused by a runway with an upslope during the approach? (1,00 P.)**

- ☐ The pilot has the feeling that the approach is too fast and reduces the speed below the normal approach speed
- ☒ The pilot has the feeling that the approach is too high and therefore descends below the regular glide slope
- ☐ The pilot has the feeling that the approach is too slow and speeds up above the normal approach speed
- ☐ The pilot has the feeling that the approach is too low and therefore approaches the runway above the regular glide slope

**34 What impression may be caused when approaching a runway with an upslope? (1,00 P.)**

- ☐ A landing beside the centerline
- ☐ A hard landing
- ☐ An undershoot
- ☒ An overshoot

**35 The occurrence of a vertigo is most likely when moving the head... (1,00 P.)**

- ☐ during a straight horizontal flight.
- ☒ during a turn.
- ☐ during a descent.
- ☐ during a climb.

**36 A Grey-out is the result of... (1,00 P.)**

- ☐ hypoxia.
- ☐ tiredness.
- ☒ positive g-forces.
- ☐ hyperventilation.



**37 Visual illusions are mostly caused by... (1,00 P.)**

- ☐ rapid eye movements.
- ☒ misinterpretation of the brain.
- ☐ colour blindness.
- ☐ binocular vision.

**38 The average decrease of blood alcohol level for an adult in one hour is approximately... (1,00 P.)**

- ☐ 0.1 percent.
- ☒ 0.01 percent.
- ☐ 0.03 percent.
- ☐ 0.3 percent.

**39 Which answer states a risk factor for diabetes? (1,00 P.)**

- ☒ Overweight
- ☐ Smoking
- ☐ Sleep deficiency
- ☐ Alcohol consumption

**40 A risk factor for decompression sickness is... (1,00 P.)**

- ☐ smoking.
- ☐ sports.
- ☒ scuba diving prior to flight.
- ☐ 100 % oxygen after decompression.

**41 Which statement is correct with regard to the short-term memory? (1,00 P.)**

- ☐ It can store 10 ( $\pm 5$ ) items for 30 to 60 seconds
- ☒ It can store 7 ( $\pm 2$ ) items for 10 to 20 seconds
- ☐ It can store 3 ( $\pm 1$ ) items for 5 to 10 seconds
- ☐ It can store 5 ( $\pm 2$ ) items for 1 to 2 minutes

**42 For what approximate time period can the short-time memory store information? (1,00 P.)**

- ☐ 35 to 50 seconds
- ☐ 30 to 40 seconds
- ☐ 3 to 7 seconds
- ☒ 10 to 20 seconds

**43 What is a latent error? (1,00 P.)**

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

**44 What does the term "confirmation bias" mean? (1,00 P.)**

- ☐ The feedback loop in a closed communication
- ☒ The preference to find arguments to proof the own mental model
- ☐ The bias to confirm each radio call
- ☐ The critical check of ambiguous situations in flight

**45 The ongoing process to monitor the current flight situation is called... (1,00 P.)**

- ☐ constant flight check.
- ☐ situational thinking.
- ☐ anticipatory check procedure.
- ☒ situational awareness.

**46 Regarding the communication model, how can the use of the same code during radio communication be ensured? (1,00 P.)**

- ☒ By the use of radio phraseology
- ☐ By using radios certified for aviation use only
- ☐ By the use of proper headsets
- ☐ By a particular frequency allocation

**47 In what different ways can a risk be handled appropriately? (1,00 P.)**

- ☐ Extrude, avoid, palliate, transfer
- ☐ Ignore, accept, transfer, extrude
- ☒ Avoid, reduce, transfer, accept
- ☐ Avoid, ignore, palliate, reduce

**48 Under which circumstances is it more likely to accept higher risks? (1,00 P.)**

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

**49 What is the meaning of "risky shift"? (1,00 P.)**

- ☐ Crossing of rudder and ailerons on short final
- ☒ The tendency to accept higher risks in groups
- ☐ Spontaneous change of landing direction when the runway has an upslope
- ☐ Seat adjustment in flight

**50 Which dangerous attitudes are often combined? (1,00 P.)**

- ☒ Macho and invulnerability
- ☐ Impulsivity and careflessness
- ☐ Invulnerability and self-abandonment
- ☐ Self-abandonment and macho

**51 What is an indication for a macho attitude? (1,00 P.)**

- ☐ Careful walkaround procedure
- ☐ Comprehensive risk assessment when faced with unfamiliar situations
- ☒ Risky flight maneuvers to impress spectators on ground
- ☐ Quick resignation in complex and critical situations

**52 Which factor can lead to human error? (1,00 P.)**

- ☐ Double check of relevant actions
- ☐ Proper use of checklists
- ☐ To be doubtful if something looks unclear or ambiguous
- ☒ The bias to see what we expect to see

**53 What is the best combination of traits with respect to the individual attitude and behaviour for a pilot? (1,00 P.)**

- ☐ Introverted - unstable
- ☐ Introverted - stable
- ☐ Extroverted - unstable
- ☒ Extroverted - stable

**54 Complacency is a risk due to... (1,00 P.)**

- ☐ the high number of mistakes normally made by humans.
- ☒ increased cockpit automation.
- ☐ the high error rate of technical systems.
- ☐ better training options for young pilots.

55 The ideal level of arousal is at which point in the diagram?

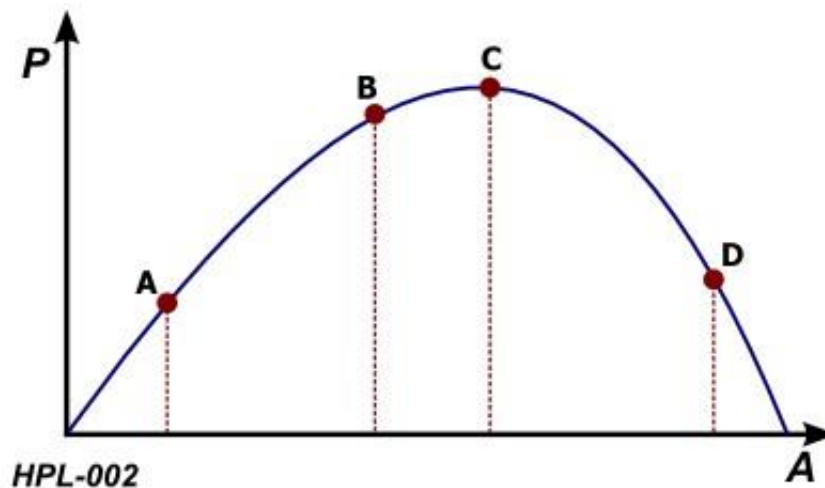
See figure (HPL- 002)

P = Performance

A = Arousal / Stress (1,00 P.)

Siehe Anlage 1

- ☐ Point A
- ☐ Point D
- ☐ Point C
- ☒ Point B



56 At which point in the diagram will a pilot find himself to be overstrained?

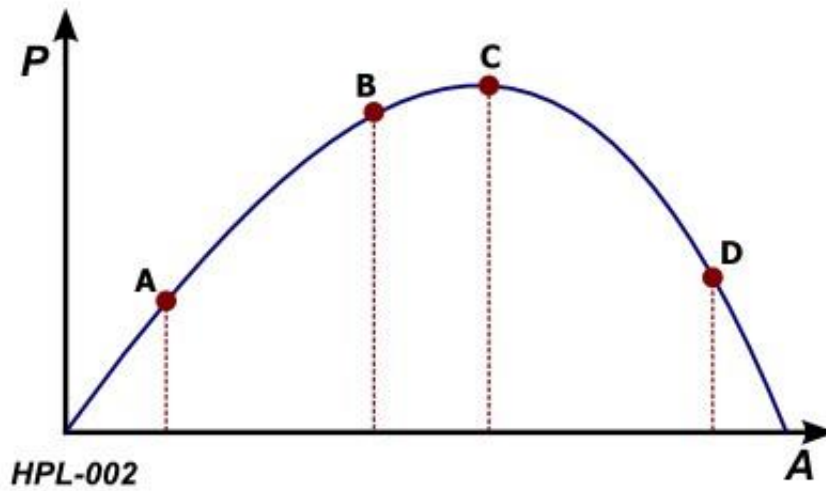
See figure (HPL-002)

P = Performance

A = Arousal / Stress (1,00 P.)

Siehe Anlage 1

- ☒ Point D
- ☐ Point B
- ☐ Point C
- ☐ Point A



57 Which of the following qualities are influenced by stress?

1. Attention
2. Concentration
3. Responsiveness
4. Memory (1,00 P.)

- ☐ 2, 4  
☐ 1  
☒ 1, 2, 3, 4  
☐ 1, 2, 3

58 Which answer is correct concerning stress? (1,00 P.)

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

## Anlage 1

