

AIRCADEMY



## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 10 – Air Law



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**1 Which of the following documents have to be on board for an international flight?**

- a) Certificate of aircraft registration
- b) Certificate of airworthiness
- c) Airworthiness review certificate
- d) EASA Form-1
- e) Airplane logbook
- f) Appropriate papers for every crew member
- g) Technical logbook (1,00 P.)

- d, f, g
- a, b, c, e, f
- a, b, e, g
- b, c, d, e, f, g

**2 Which area could be crossed with certain restrictions? (1,00 P.)**

- Dangerous area
- Restricted area
- No-fly zone
- Prohibited area

**3 Where can the type of restriction for a restricted airspace be found? (1,00 P.)**

- AIC
- ICAO chart 1:500000
- NOTAM
- AIP

**4 What is the status of the rules and procedures created by the EASA? (e.g. Part-FCL, Part-MED) (1,00 P.)**

- They are part of the EU regulation and legally binding to all EU member states
- They are not legally binding, they only serve as a guide
- They have the same status as ICAO Annexes
- Only after a ratification by individual EU member states they are legally binding

**5 Which validity does the "Certificate of Airworthiness" have? (1,00 P.)**

- 12 years
- Unlimited
- 6 months
- 12 months

**6 What is the meaning of the abbreviation "ARC"? (1,00 P.)**

- Airworthiness Recurring Control
- Airspace Restriction Criteria
- Airworthiness Review Certificate
- Airspace Rulemaking Committee

**7 The "Certificate of Airworthiness" is issued by the state... (1,00 P.)**

- in which the aircraft is constructed.
- of the residence of the owner.
- in which the airworthiness review is done.
- in which the aircraft is registered.

**8 A pilot license issued in accordance with ICAO Annex 1 is valid in... (1,00 P.)**

- those countries that have accepted this license on application.
- the country where the license was issued.
- the country where the license was acquired.
- all ICAO countries.

**9 What is the subject of ICAO Annex 1? (1,00 P.)**

- Flight crew licensing
- Rules of the air
- Operation of aircraft
- Air traffic services

**10 The holder of an SPL license or LAPL(S) license completed a total of 9 winch launches, 4 launches in aero-tow and 2 bungee launches during the last 24 months.****What launch methods may the pilot conduct as PIC today? (1,00 P.)**

- Winch and aero-tow.
- Winch, bungee and aero-tow.
- Aero-tow and bungee.
- Winch and bungee.

**11 The validity of a medical examination certificate class 2 for a 62 years old pilot is... (1,00 P.)**

- 60 Months.
- 24 Months.
- 12 Months.
- 48 Months.

**12 What is the meaning of the abbreviation "SERA"? (1,00 P.)**

- Standardized European Rules of the Air
- Specialized Radar Approach
- Standard European Routes of the Air
- Selective Radar Altimeter

**13 What is the meaning of the abbreviation "TRA"? (1,00 P.)**

- Temporary Radar Routing Area
- Terminal Area
- Temporary Reserved Airspace
- Transponder Area

**14 What is the meaning of an area marked as "TMZ"? (1,00 P.)**

- Traffic Management Zone
- Transponder Mandatory Zone
- Touring Motorglider Zone
- Transportation Management Zone

**15 A flight is called a "visual flight", if the... (1,00 P.)**

- flight is conducted in visual meteorological conditions.
- flight is conducted under visual flight rules.
- visibility in flight is more than 5 km.
- visibility in flight is more than 8 km.

**16 What is the meaning of the abbreviation "VMC"? (1,00 P.)**

- Visual flight rules
- Variable meteorological conditions
- Visual meteorological conditions
- Instrument flight conditions

**17 What has to be considered when entering an RMZ? (1,00 P.)**

- The transponder has to be switched on Mode C and squawk 7000
- To permanently monitor the radio and if possible to establish radio contact
- To obtain a clearance from the local aviation authority
- To obtain a clearance to enter this area

**18 Two engine-driven aircraft are flying on crossing courses at the same altitude.****Which one has to divert? (1,00 P.)**

- The heavier one has to climb
- The lighter one has to climb
- Both have to divert to the left
- Both have to divert to the right

**19 Two aeroplanes are flying on crossing tracks.****Which one has to divert? (1,00 P.)**

- Both have to divert to the left
- The aircraft which flies from right to left has the right of priority
- The aircraft which flies from left to right has the right of priority
- Both have to divert to the right

**20 Which distances to clouds have to be maintained during a VFR flight in airspaces C, D and E? (1,00 P.)**

- 1000 m horizontally, 1500 ft vertically
- 1000 m horizontally, 300 m vertically
- 1500 m horizontally, 1000 m vertically
- 1500 m horizontally, 1000 ft vertically

**21 What is the minimum flight visibility in airspace "E" for an aircraft operating under VFR at FL75? (1,00 P.)**

- 1500 m
- 8000 m
- 3000 m
- 5000 m

- 22 What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL110? (1,00 P.)**
- 3000 m
  - 1500 m
  - 8000 m
  - 5000 m
- 23 What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125? (1,00 P.)**
- 3000 m
  - 8000 m
  - 1500 m
  - 5000 m
- 24 What are the minimum distances to clouds for a VFR flight in airspace "B"? (1,00 P.)**
- Horizontally 1.500 m, vertically 300 m
  - Horizontally 1.000 m, vertically 300 m
  - Horizontally 1.500 m, vertically 1.000 m
  - Horizontally 1.000 m, vertically 1.500 ft
- 25 What is the minimum flight visibility in airspace "C" below FL 100 for an aircraft operating under VFR? (1,00 P.)**
- 1.5 km
  - 8 km
  - 5 km
  - 10 km
- 26 What is the minimum flight visibility in airspace "C" at and above FL 100 for an aircraft operating under VFR?**
- (1,00 P.)**
- 5 km
  - 10 km
  - 1.5 km
  - 8 km

**27 The term "ceiling" is defined as the... (1,00 P.)**

- height of the base of the lowest layer of clouds covering more than half of the sky below 10000 ft.
- height of the base of the highest layer of clouds covering more than half of the sky below 20000 ft.
- altitude of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.
- height of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft.

**28 Being intercepted by a military aircraft at daytime, what is the meaning of the following signal:**

**A sudden heading change of 90 degrees or more and a pull-up of the aircraft without crossing the track of the intercepted aircraft? (1,00 P.)**

- You are entering a restricted area, leave the airspace immediately
- Follow me, i will bring you to the next suitable airfield
- You may continue your flight
- Prepare for a safety landing, you have entered a prohibited area

**29 During a flight at FL 80, the altimeter setting has to be... (1,00 P.)**

- local QNH.
- 1030.25 hPa.
- 1013.25 hPa.
- local QFE.

**30 What is the purpose of the semi-circular rule? (1,00 P.)**

- To fly without a filed flight plan in prescribed zones published in the AIP
- To avoid collisions by suspending turning manoeuvres
- To avoid collisions by reducing the probability of opposing traffic at the same altitude
- To allow safe climbing or descending in a holding pattern

**31 A transponder with the ability to send the current pressure level is a... (1,00 P.)**

- mode A transponder.
- pressure-decoder.
- mode C or S transponder.
- transponder approved for airspace "B".

**32 Which transponder code indicates a loss of radio communication? (1,00 P.)**

- 7000
- 7600
- 2000
- 7700

**33 Which transponder code should be set during a radio failure without any request? (1,00 P.)**

- 7600
- 7700
- 7500
- 7000

**34 Which transponder code has to be set unrequested during an emergency? (1,00 P.)**

- 7000
- 7700
- 7600
- 7500

**35 Which air traffic service is responsible for the safe conduct of flights? (1,00 P.)**

- FIS (flight information service)
- ATC (air traffic control)
- AIS (aeronautical information service)
- ALR (alerting service)

**36 Air traffic control service is conducted by which services? (1,00 P.)**

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

- 37 Which answer is correct with regard to separation in airspace "E"? (1,00 P.)**
- VFR traffic is separated only from IFR traffic
  - VFR traffic is not separated from any other traffic
  - VFR traffic is separated from VFR and IFR traffic
  - IFR traffic is separated only from VFR traffic
- 38 Which air traffic services can be expected within an FIR (flight information region)? (1,00 P.)**
- AIS (aeronautical information service)  
SAR (search and rescue)
  - ATC (air traffic control)  
AIS (aeronautical information service)
  - ATC (air traffic control)  
FIS (flight information service)
  - FIS (flight information service)  
ALR (alerting service)
- 39 A pilot can contact FIS (flight information service)... (1,00 P.)**
- via radio communication.
  - via internet.
  - via telephone.
  - by a personal visit.
- 40 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? (1,00 P.)**
- Caution wake turbulence
  - Danger jet blast
  - Be careful wake winds
  - Attention propwash
- 41 Which of the following options states a correct position report? (1,00 P.)**
- DEABC over "N" in FL 2500 ft
  - DEABC reaching "N"
  - DEABC over "N" at 35
  - DEABC, "N", 2500 ft
- 42 What information is provided in the general part (GEN) of the AIP? (1,00 P.)**
- Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods
  - Warnings for aviation, ATS airspaces and routes, restricted and dangerous airspaces
  - Table of content, classification of airfields with corresponding maps, approach charts, taxi charts, restricted and dangerous airspaces
  - Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees

**43 Which are the different parts of the Aeronautical Information Publication (AIP)? (1,00 P.)**

- GEN  
COM  
MET
- GEN  
ENR  
AD
- GEN  
AGA  
COM
- GEN  
MET  
RAC

**44 What information is provided in the part "AD" of the AIP? (1,00 P.)**

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

**45 The shown NOTAM is valid until...**

**A1024/13 A) LOWW B) 1305211200 C) 1305211400  
E) STOCKERAU VOR STO 113.00 UNSERVICEABLE.  
(1,00 P.)**

- 21/05/2014 13:00 UTC.
- 13/05/2013 12:00 UTC.
- 21/05/2013 14:00 UTC.
- 13/10/2013 00:00 UTC.

**46 A Pre-Flight Information Bulletin (PIB) is a presentation of current... (1,00 P.)**

- ICAO information of operational significance prepared after the flight.
- AIP information of operational significance prepared prior to flight.
- NOTAM information of operational significance prepared prior to flight.
- AIC information of operational significance prepared after the flight.

**47 The term "aerodrome elevation" is defined as... (1,00 P.)**

- the highest point of the apron.
- the highest point of the landing area.
- the lowest point of the landing area.
- the average value of the height of the manoeuvring area.

**48 The term "runway" is defined as a... (1,00 P.)**

- round area on an aerodrome prepared for the landing and take-off of aircraft.
- rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.
- rectangular area on a land aerodrome prepared for the landing and take-off of helicopters.
- rectangular area on a land or water aerodrome prepared for the landing and take-off of aircraft.

**49 How can a wind direction indicator be marked for better visibility? (1,00 P.)**

- The wind direction indicator could be made from green materials.
- The wind direction indicator may be mounted on top of the control tower.
- The wind direction indicator could be located on a big black surface.
- The wind direction indicator could be surrounded by a white circle.

**50 Of what shape is a landing direction indicator? (1,00 P.)**

- T
- L
- A straight arrow
- An angled arrow

**51 What is the purpose of the signal square at an aerodrome? (1,00 P.)**

- Aircraft taxi to this square to get light signals for taxi and take-off clearance
- It contains special symbols to indicate the conditions at the aerodrome visually to over-flying aircraft
- It is an illuminated area on which search and rescue and fire fighting vehicles are placed
- It is a specially marked area to pick up or drop towing objects

**52 How are two parallel runways designated? (1,00 P.)**

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

**53 What is indicated by a pattern of longitudinal stripes of uniform dimensions disposed symmetrically about the centerline of a runway? (1,00 P.)**

- A ground roll could be started from this position
- Do not touch down behind them
- At this point the glide path of an ILS hits the runway
- Do not touch down before them

**54 Which runway designators are correct for 2 parallel runways? (1,00 P.)**

- "24" and "25"
- "26" and "26R"
- "18" and "18-2"
- "06L" and "06R"

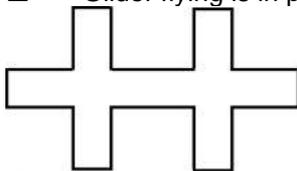
**55 An aerodrome beacon (ABN) is a... (1,00 P.)**

- rotating beacon installed at the beginning of the final approach to indicate its location to aircraft pilots from the air.
- rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the ground.
- rotating beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air.
- fixed beacon installed at an airport or aerodrome to indicate its location to aircraft pilots from the air.

**56 What is the meaning of this sign at an aerodrome?**

**See figure (ALW-011) (1,00 P.)**

- Caution, manoeuvring area is poor
- After take-off and before landing all turns have to be made to the right
- Landing prohibited for a longer period
- Glider flying is in progress



ALW-011

**57 What is the meaning of "DETRESFA"? (1,00 P.)**

- Distress phase
- Rescue phase
- Alerting phase
- Uncertainty phase

**58 Who provides search and rescue service? (1,00 P.)**

- Only military organisations
- International approved organisations
- Both military and civil organisations
- Only civil organisations

**59 How can a pilot confirm a search and rescue signal on ground in flight? (1,00 P.)**

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

**60 With respect to aircraft accident and incident investigation, what are the three categories regarding aircraft occurrences? (1,00 P.)**

- Incident  
Serious incident  
Accident
- Happening  
Event  
Serious event
- Event  
Serious event  
Accident
- Event  
Crash  
Disaster

**61 What is the primary purpose of an aircraft accident investigation? (1,00 P.)**

- To identify the reasons and work out safety recommendations
- To Determine the guilty party and draw legal consequences
- To work for the public prosecutor and help to follow-up flight accidents
- To clarify questions of liability within the meaning of compensation for passengers

**62 With regard to take-off and landing, the following exception is effective for sailplanes: (1,00 P.)**

- Sailplanes do not necessarily need to land on airfields, since following from the characteristics of that aircraft type the landing site cannot be pre-determined.
- Sailplanes may generally land on and depart from suitable and sufficiently large fields without permission from the responsible authority.
- Sailplanes may generally land on and depart from suitable and sufficiently large fields without further permission or agreement if no suitable airfield is located within 5 km radius.
- Sailplanes may generally land on and depart from suitable and sufficiently large fields without agreement from the legitimate owner or another eligible person.

**63 Who has the responsibility for the approval of sailplane airfields and the supervision of compliance with requirements? (1,00 P.)**

- The local aviation authority.
- The Bundesministerium für Verkehr und digitale Infrastruktur (BMVI).
- The Luftfahrtbundesamt (LBA).
- The Bundesaufsichtsamt für Flugplätze (BAF).

**64 For what kind of aircraft operation may a glider airfield be extended? (1,00 P.)**

- Helicopter or airplanes towing banners.
- Commercial operation of airplanes.
- Towplanes and powered gliders (with self-launch capability).
- General aviation airplanes up to 5,7 t.

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## Part-FCL Question Bank

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*(Excerpt)*

# 20 – Human Performance and Limitations



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

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

**2 The "E" in the SHELL model means...**

**See figure (HPL- 001) (1,00 P.)**

- equipment.
- enroute.
- environment.
- effective.



**HPL-001**

**3 The "L" in the SHELL model means...**

**See figure (HPL- 001) (1,00 P.)**

- liveware.
- line check.
- lift.
- loss of control.



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

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

5 Which two parameters have to be considered in a risk assessment? (1,00 P.)

- Probability of occurrence and own experience
- Level of familiarity and regulations
- Severity of outcome and amount insured
- Probability of occurrence and severity of outcome

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

- 21 %
- 12 %
- 18.9 %
- 78 %

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

- 0.1 %
- 78 %
- 21 %
- 1 %

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

- 5000 ft
- 22000 ft
- 10000 ft
- 18000 ft

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

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

- 78 %
- 0.1 %
- 21 %
- 1 %

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

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

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

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

**12 Which kind of risks are associated with the use of handheld pulse oximeters? (1,00 P.)**

- Pulse oximeters can interfere with the avionics
- Pulse oximeters do not work below 10000 ft
- A pulse oximeter can be only used twice
- Hyperventilation is not detected by a pulse oximeter

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

- Cyanose
- Tingling
- Disturbance of consciousness
- Spasm

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

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

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

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

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

- 7000 feet
- 10000 feet
- 12000 feet
- 2000 feet

**17 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.)**

- 7000 feet
- 22000 feet
- 5000 feet
- 12000 feet

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

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

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

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

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

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

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

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

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

- Diving
- Menstruation
- Smoking
- Blood donation

**23 Which type of hypoxia can be caused by high altitude? (1,00 P.)**

- Anaemic hypoxia
- Stagnating hypoxia
- Hypoxic hypoxia
- Histotoxic hypoxia

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

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

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

- Virulence
- Coherence
- Reduction
- Reflex

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

- Autonomic nervous system
- Compliant nervous system
- Automatical nervous system
- Critical nervous system

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

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

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

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

**29 What time is required approximately for the eyes to adapt to brightness? (1,00 P.)**

- 10 minutes
- 1 minute
- 1 second
- 10 seconds

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

- Blind spot
- Rods
- Cones
- Macula

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

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

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

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

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

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

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

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

**35 What is a Coriolis illusion? (1,00 P.)**

- Heavy vertigo due to head movements during turns
- Apparent movement of static objects at night
- Wrong interpretation of altitude during approach
- False perception of colour due to strong accelerations

**36 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 slow and speeds up above the normal approach speed
- 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 low and therefore approaches the runway above the regular glide slope

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

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

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

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

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

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

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

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

**41 The human circadian cycle is based on a cycle of approximately... (1,00 P.)**

- 10 hours.
- 13 hours.
- 22 hours.
- 25 hours.

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

- 0.01 percent.
- 0.3 percent.
- 0.03 percent.
- 0.1 percent.

**43 What has to be taken into consideration when comparing medication which is only available on prescription with medication that is available over the counter? (1,00 P.)**

- There is a notification requirement for medication which is sold over the counter if it is taken for a period exceeding 10 days
- Medication which is available over the counter is safe as long as a doctor has not expressed an opinion to the contrary
- Generally both types of medication have to be handled in the same way
- Medication which is only available on prescription is considered to have an impact on flight performance only if explicitly noted on the package insert

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

- Overweight
- Smoking
- Alcohol consumption
- Sleep deficiency

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

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

**46 Which of the following options does NOT require an immediate consultation of an aeromedical examiner? (1,00 P.)**

- Regular intake of medication
- Pregnancy
- First prescription of glasses
- Preventive dental screening

**47 Smoking causes... (1,00 P.)**

- histotoxic hypoxia.
- decompression sickness.
- anaemic hypoxia.
- hyperventilation.

**48 Which statement is correct with regard to the interaction between perception and experience? (1,00 P.)**

- Experience and perception are totally different parts of the perception process
- Experience has a significant influence to our perception
- The interaction has no relevance for flight safety
- The interaction between perception and experience is limited to optical illusions

**49 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 3 ( $\pm 1$ ) items for 5 to 10 seconds
- It can store 7 ( $\pm 2$ ) items for 10 to 20 seconds
- It can store 5 ( $\pm 2$ ) items for 1 to 2 minutes

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

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

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

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

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

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

**53 What does the abbreviation "CFIT" mean? (1,00 P.)**

- Cargo Fire in Tail Compartment
- Controlled Flight Into Terrain
- Company Fuel Index Tool
- Central Flight Instructor Training

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

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

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

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

**56 Which of the following attitudes are not hazardous when piloting an aircraft? (1,00 P.)**

- Macho
- Synergetic
- Infallibility
- Impulsivity

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

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

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

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

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

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

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

- Impulsivity and carefulness
- Self-abandonment and macho
- Macho and invulnerability
- Invulnerability and self-abandonment

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

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

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

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

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

- Introverted - unstable
- Extroverted - unstable
- Introverted - stable
- Extroverted - stable

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

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

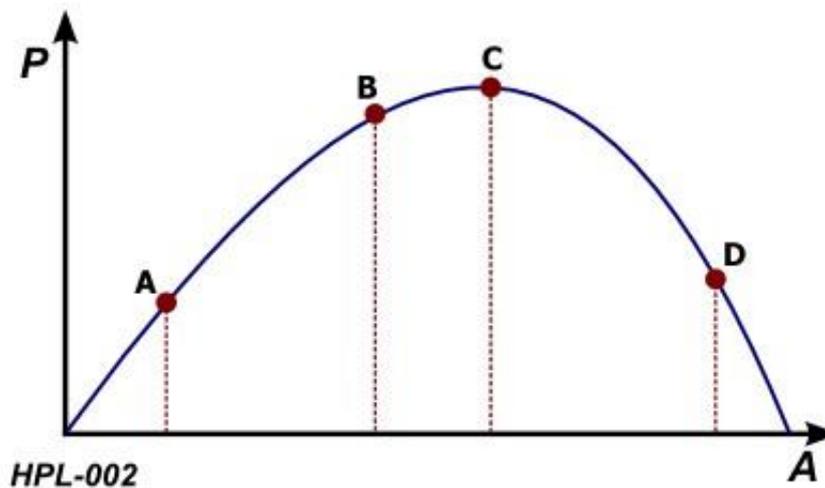
65 The ideal level of arousal is at which point in the diagram?

See figure (HPL- 002)

P = Performance

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

- Point B
- Point C
- Point A
- Point D



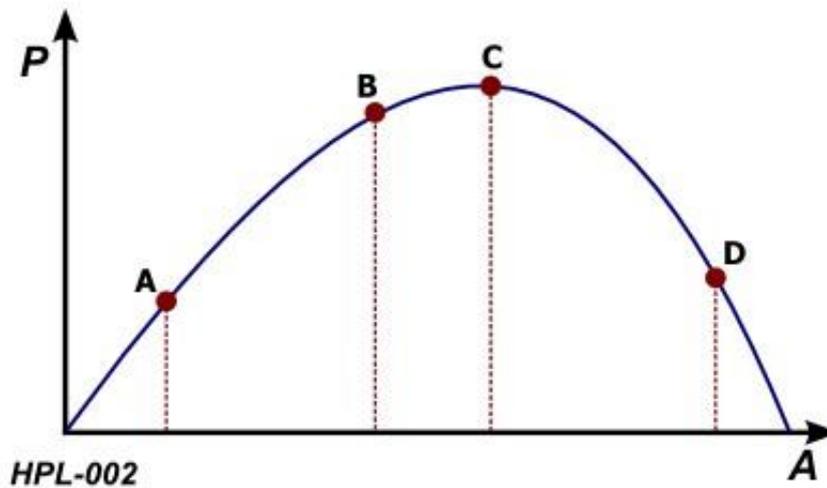
66 At which point in the diagram will a pilot find himself to be overstrained?

See figure (HPL-002)

**P = Performance**

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

- Point D
- Point A
- Point C
- Point B



67 Which of the following qualities are influenced by stress?

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

- 1
- 2, 4
- 1, 2, 3, 4
- 1, 2, 3

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

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

**69 What can cause an increased number of errors, tunnel vision and reduced attention?  
(1,00 P.)**

- Unhealthy food
- Fatigue
- Relaxation training
- Sports

AIRCADEMY



## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 30 – Meteorology



**Publisher:**

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[info@aircademy.com](mailto:info@aircademy.com)

LPLUS GmbH  
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**1 What is the gas composition of "air"? (1,00 P.)**

- Oxygen 78 %  
Water vapour 21 %  
Nitrogen 1 %
- Oxygen 21 %  
Nitrogen 78 %  
Noble gases / carbon dioxide 1 %
- Nitrogen 21 %  
Oxygen 78 %  
Noble gases / carbon dioxide 1 %
- Oxygen 21 %  
Water vapour 78 %  
Noble gases / carbon dioxide 1 %

**2 Weather phenomena are most common to be found in which atmospheric layer? (1,00 P.)**

- Stratosphere
- Troposphere
- Tropopause
- Thermosphere

**3 What is the mass of a "cube of air" with the edges 1 m long, at MSL according ISA? (1,00 P.)**

- 12,25 kg
- 1,225 kg
- 0,01225 kg
- 0,1225 kg

**4 At what rate does the temperature change with increasing height according to ISA (ICAO Standard Atmosphere) within the troposphere? (1,00 P.)**

- Increases by 2° C / 100 m
- Decreases by 2° C / 100 m
- Increases by 2° C / 1000 ft
- Decreases by 2° C / 1000 ft

**5 What is the mean height of the tropopause according to ISA (ICAO Standard Atmosphere)? (1,00 P.)**

- 36000 m
- 18000 ft
- 11000 ft
- 11000 m

**6 The term "tropopause" is defined as... (1,00 P.)**

- the layer above the troposphere showing an increasing temperature.
- the boundary area between the mesosphere and the stratosphere.
- the boundary area between the troposphere and the stratosphere.
- the height above which the temperature starts to decrease.

**7 Temperatures will be given by meteorological aviation services in Europe in which unit? (1,00 P.)**

- Degrees Centigrade (° C)
- Gpdam
- Kelvin
- Degrees Fahrenheit

**8 What is meant by "inversion layer"? (1,00 P.)**

- An atmospheric layer with constant temperature with increasing height
- An atmospheric layer where temperature increases with increasing height
- An atmospheric layer where temperature decreases with increasing height
- A boundary area between two other layers within the atmosphere

**9 What is meant by "isothermal layer"? (1,00 P.)**

- An atmospheric layer where temperature decreases with increasing height
- A boundary area between two other layers within the atmosphere
- An atmospheric layer with constant temperature with increasing height
- An atmospheric layer where temperature increases with increasing height

**10 The temperature lapse rate with increasing height within the troposphere according ISA is... (1,00 P.)**

- 0,65° C / 100 m.
- 1° C / 100 m.
- 3° C / 100 m.
- 0,6° C / 100 m.

**11 Which process may result in an inversion layer at about 5000 ft (1500 m) height? (1,00 P.)**

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

**12 An inversion layer close to the ground can be caused by... (1,00 P.)**

- large-scale lifting of air.
- thickening of clouds in medium layers.
- intensifying and gusting winds.
- ground cooling during the night.

**13 What is the ISA standard pressure at FL 180 (5500 m)? (1,00 P.)**

- 300 hPa
- 1013.25 hPa
- 500 hPa
- 250 hPa

**14 The pressure which is measured at a ground station and reduced to mean sea level (MSL)**

**by means of the actual atmospheric conditions is called... (1,00 P.)**

- QNH.
- QNE.
- QFF.
- QFE.

**15 How do air density and flight performance change with decreasing temperature (at constant pressure)? (1,00 P.)**

- Air density increases, flight performance decreases
- Air density decreases, flight performance increases
- Air density increases, flight performance increases
- Air density decreases, flight performance decreases

**16 Which processes result in decreasing air density? (1,00 P.)**

- Decreasing temperature, increasing pressure
- Increasing temperature, decreasing pressure
- Decreasing temperature, decreasing pressure
- Increasing temperature, increasing pressure

**17 The pressure at MSL in ISA conditions is... (1,00 P.)**

- 15 hPa.
- 1123 hPa.
- 113.25 hPa.
- 1013.25 hPa.

**18 The height of the tropopause of the International Standard Atmosphere (ISA) is at... (1,00 P.)**

- 36000 ft.
- 5500 ft.
- 48000 ft.
- 11000 ft.

**19 The barometric altimeter indicates height above... (1,00 P.)**

- standard pressure 1013.25 hPa.
- mean sea level.
- ground.
- a selected reference pressure level.

**20 The altimeter can be checked on the ground by setting... (1,00 P.)**

- QNE and checking that the indication shows zero on the ground.
- QFF and comparing the indication with the airfield elevation.
- QNH and comparing the indication with the airfield elevation.
- QFE and comparing the indication with the airfield elevation.

**21 The barometric altimeter with QFE setting indicates... (1,00 P.)**

- height above the pressure level at airfield elevation.
- height above standard pressure 1013.25 hPa.
- true altitude above MSL.
- height above MSL.

**22 The barometric altimeter with QNH setting indicates... (1,00 P.)**

- height above MSL.
- height above standard pressure 1013.25 hPa.
- height above the pressure level at airfield elevation.
- true altitude above MSL.

**23 Given the following information, what is the true altitude? (rounded to the nearest 50 ft)**

**QNH: 983 hPa**

**Altitude: FL 85**

**Outside Air Temperature: ISA - 10° (1,00 P.)**

- 7600 ft
- 9400 ft
- 7900 ft
- 7300 ft

**24 How can wind speed and wind direction be derived from surface weather charts? (1,00 P.)**

- By alignment and distance of hypsometric lines
- By alignment and distance of isobaric lines
- By alignment of lines of warm- and cold fronts.
- By annotations from the text part of the chart

**25 Which force causes "wind"? (1,00 P.)**

- Pressure gradient force
- Centrifugal force
- Coriolis force
- Thermal force

**26 Above the friction layer, with a prevailing pressure gradient, the wind direction is... (1,00 P.)**

- at an angle of 30° to the isobars towards low pressure.
- parallel to the isobars.
- perpendicular to the isohypses.
- perpendicular to the isobars.

**27 Which of the stated surfaces will reduce the wind speed most due to ground friction? (1,00 P.)**

- Flat land, lots of vegetation cover
- Mountainous areas, vegetation cover
- Flat land, deserted land, no vegetation
- Oceanic areas

**28 The movement of air flowing together is called... (1,00 P.)**

- subsidence.
- convergence.
- divergence.
- soncordence.

**29 The movement of air flowing apart is called... (1,00 P.)**

- divergence.
- subsidence.
- concordence.
- convergence.

**30 What weather development will result from convergence at ground level? (1,00 P.)**

- Ascending air and cloud formation
- Ascending air and cloud dissipation
- Descending air and cloud formation
- Descending air and cloud dissipation

**31 When air masses meet each other head on, how is this referred to and what air movements will follow? (1,00 P.)**

- Divergence resulting in sinking air
- Divergence resulting in air being lifted
- Convergence resulting in sinking air
- Convergence resulting in air being lifted

**32 What are the air masses that Central Europe is mainly influenced by? (1,00 P.)**

- Polar cold air and tropical warm air
- Tropical and arctic cold air
- Equatorial and tropical warm air
- Arctic and polar cold air

**33 With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air? (1,00 P.)**

- At the equator
- At the geographic poles
- At the subtropical high pressure belt
- At the polar front

**34 Winds blowing uphill are defined as... (1,00 P.)**

- katabatic winds.
- convergent winds.
- subsident winds.
- anabatic winds.

**35 Winds blowing downhill are defined as... (1,00 P.)**

- convergent winds.
- subsident winds.
- anabatic winds.
- katabatic winds.

**36 Air descending behind a mountain range is defined as... (1,00 P.)**

- katabatic wind.
- anabatic wind.
- divergent wind.
- convergent wind.

**37 "Foehn" conditions usually develop with... (1,00 P.)**

- stability, widespread air blown against a mountain ridge.
- stability, high pressure area with calm wind.
- instability, high pressure area with calm wind.
- instability, widespread air blown against a mountain ridge.

**38 What type of turbulence is typically found close to the ground on the lee side during Foehn conditions? (1,00 P.)**

- Inversion turbulence
- Thermal turbulence
- Clear-air turbulence (CAT)
- Turbulence in rotors

**39 Light turbulence always has to be expected... (1,00 P.)**

- below cumulus clouds due to thermal convection.
- above cumulus clouds due to thermal convection.
- below stratiform clouds in medium layers.
- when entering inversions.

**40 Moderate to severe turbulence has to be expected... (1,00 P.)**

- with the appearance of extended low stratus clouds (high fog).
- below thick cloud layers on the windward side of a mountain range.
- on the lee side of a mountain range when rotor clouds are present.
- overhead unbroken cloud layers.

**41 Which answer contains every state of water found in the atmosphere? (1,00 P.)**

- Gaseous and liquid
- Liquid, solid, and gaseous
- Liquid
- Liquid and solid

- 42 How do dew point and relative humidity change with decreasing temperature? (1,00 P.)**
- Dew point remains constant, relative humidity decreases
  - Dew point decreases, relative humidity increases
  - Dew point remains constant, relative humidity increases
  - Dew point increases, relative humidity decreases
- 43 How do spread and relative humidity change with increasing temperature? (1,00 P.)**
- Spread increases, relative humidity increases
  - Spread remains constant, relative humidity decreases
  - Spread remains constant, relative humidity increases
  - Spread increases, relative humidity decreases
- 44 The "spread" is defined as... (1,00 P.)**
- maximum amount of water vapour that can be contained in air.
  - difference between dew point and condensation point.
  - difference between actual temperature and dew point.
  - relation of actual to maximum possible humidity of air.
- 45 With other factors remaining constant, decreasing temperature results in... (1,00 P.)**
- decreasing spread and decreasing relative humidity.
  - increasing spread and decreasing relative humidity.
  - decreasing spread and increasing relative humidity.
  - increasing spread and increasing relative humidity.
- 46 What process causes latent heat being released into the upper troposphere? (1,00 P.)**
- Descending air across widespread areas
  - Cloud forming due to condensation
  - Stabilisation of inflowing air masses
  - Evaporation over widespread water areas
- 47 The saturated adiabatic lapse rate is... (1,00 P.)**
- higher than the dry adiabatic lapse rate.
  - equal to the dry adiabatic lapse rate.
  - lower than the dry adiabatic lapse rate.
  - proportional to the dry adiabatic lapse rate.

**48 The dry adiabatic lapse rate has a value of... (1,00 P.)**

- 2° / 1000 ft.
- 0,6° C / 100 m.
- 0,65° C / 100 m.
- 1,0° C / 100 m.

**49 The saturated adiabatic lapse rate should be assumed with a mean value of: (1,00 P.)**

- 2° C / 1000 ft.
- 0,6° C / 100 m.
- 0° C / 100 m.
- 1,0° C / 100 m.

**50 What weather conditions may be expected during conditionally unstable conditions? (1,00 P.)**

- Sky clear of clouds, sunshine, low winds
- Shallow cumulus clouds with base at medium levels
- Layered clouds up to high levels, prolonged rain or snow
- Towering cumulus, isolated showers of rain or thunderstorms

**51 What phenomenon is referred to as "blue thermals"? (1,00 P.)**

- Descending air between Cumulus clouds
- Thermals without formation of Cu clouds
- Thermals with less than 4/8 Cu coverage
- Turbulence in the vicinity of Cumulonimbus clouds

**52 The term "beginning of thermals" refers to the moment when thermal intensity... (1,00 P.)**

- reaches up to 600 m AGL and forms Cumulus clouds.
- becomes usable for gliding and reaches up to 600 m AGL.
- becomes usable for gliding and reaches up to 1200 m MSL.
- becomes usable for cross-country gliding by formation of Cu clouds.

**53 The term "trigger temperature" is defined as the temperature which... (1,00 P.)**

- is reached by a thermal lift during ascend when formation of Cumulus clouds begins.
- is the maximum temperature at ground level that can be reached without formation of a thunderstorm from a Cumulus cloud.
- must be obtained at ground level so Cumulus clouds can be formed by thermal lifts.
- is the minimum temperature at ground level that has to be reached so formation of a thunderstorm from a Cumulus cloud can occur.

**54 The gliding weather report states environmental instability. At morning, dew covers gras and no thermals are presently active.**

**What development can be expected for thermal activity? (1,00 P.)**

- After sunset and formation of a ground-level inversion thermal activity is likely to begin
- Formation of dew prevents all thermal activity during the following day
- Environmental instability prevents air from being lifted and no thermals will be generated
- With ongoing insolation and ground warming, thermal lifting is likely to begin

**55 Which conditions are likely for the formation of advection fog? (1,00 P.)**

- Warm, humid air cools during a cloudy night
- Warm, humid air moves over a cold surface
- Humidity evaporates from warm, humid ground into cold air
- Cold, humid air moves over a warm ocean

**56 Clouds are basically distinguished by what types? (1,00 P.)**

- Thunderstorm and shower clouds
- Cumulus and stratiform clouds
- Stratiform and ice clouds
- Layered and lifted clouds

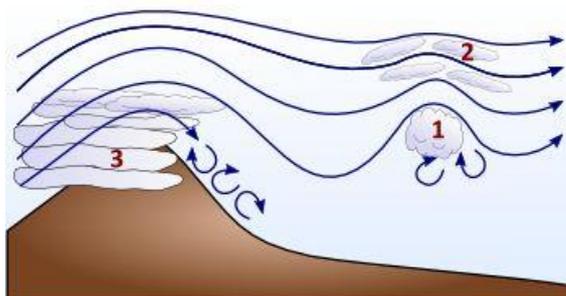
**57 Clouds in high layers are referred to as... (1,00 P.)**

- Alto-
- Cirro-
- Nimbo-
- Strato-

**58 What weather phenomenon designated by "2" has to be expected on the lee side during "Foehn" conditions?**

**See figure (MET-001). (1,00 P.)**

- Altocumulus lenticularis
- Altocumulus Castellanus
- Cumulonimbus
- Nimbostratus



MET-001

**59 What cloud type does the picture show?**

**See figure (MET-002). (1,00 P.)**

- Stratus
- Cumulus
- Cirrus
- Altus



**60 What cloud type does the picture show?**

**See figure (MET-004). (1,00 P.)**

- Cirrus
- Altocumulus
- Cumulus
- Stratus



**61 What factor may affect the top of cumulus clouds? (1,00 P.)**

- The spread
- The absolute humidity
- Relative humidity
- The presence of an inversion layer

**62 What factors may indicate a tendency to fog formation? (1,00 P.)**

- Strong winds, decreasing temperature
- Low spread, increasing temperature
- Low pressure, increasing temperature
- Low spread, decreasing temperature

**63 What condition may prevent the formation of "radiation fog"? (1,00 P.)**

- Calm wind
- Clear night, no clouds
- Overcast cloud cover
- Low spread

**64 What process results in the formation of "advection fog"? (1,00 P.)**

- Cold, moist air mixes with warm, moist air
- Prolonged radiation during nights clear of clouds
- Cold, moist air is being moved across warm ground areas
- Warm, moist air is moved across cold ground areas

**65 What type of fog emerges if humid and almost saturated air, is forced to rise upslope of hills or shallow mountains by the prevailing wind? (1,00 P.)**

- Advection fog
- Radiation fog
- Steaming fog
- Orographic fog

**66 What process results in the formation of "orographic fog" ("hill fog")? (1,00 P.)**

- Prolonged radiation during nights clear of clouds
- Warm, moist air is moved across a hill or a mountain range
- Evaporation from warm, moist ground area into very cold air
- Cold, moist air mixes with warm, moist air

**67 What situation is called "over-development" in a weather report? (1,00 P.)**

- Change from blue thermals to cloudy thermals during the afternoon
- Vertical development of Cumulus clouds to rain showers
- Development of a thermal low to a storm depression
- Widespreading of Cumulus clouds below an inversion layer

**68 What factors are required for the formation of precipitation in clouds? (1,00 P.)**

- High humidity and high temperatures
- The presence of an inversion layer
- Calm winds and intensive sunlight insolation
- Moderate to strong updrafts

**69 The formation of medium to large precipitation particles requires... (1,00 P.)**

- a high cloud base.
- an inversion layer.
- strong updrafts.
- strong wind.

**70 Which type of cloud is associated with prolonged rain? (1,00 P.)**

- Cirrostratus
- Nimbostratus
- Altocumulus
- Cumulonimbus

**71 Regarding the type of cloud, precipitation is classified as... (1,00 P.)**

- showers of snow and rain.
- prolonged rain and continuous rain.
- rain and showers of rain.
- light and heavy precipitation.

**72 How is an air mass described when moving to Central Europe via the Russian continent during winter? (1,00 P.)**

- Maritime polar air
- Continental tropical air
- Maritime tropical air
- Continental polar air

**73 The character of an air mass is given by what properties? (1,00 P.)**

- Environmental lapse rate at origin
- Temperatures at origin and present region
- Region of origin and track during movement
- Wind speed and tropopause height

**74 The front shown in the picture is a / an...**

See figure (MET-005) (1,00 P.)

- front aloft.
- warm front.
- cold front.
- occlusion.

**75 The front shown in the picture is a / an...**

See figure (MET-006) (1,00 P.)

- front aloft.
- occlusion.
- cold front.
- warm front.



**76 The front shown in the picture is a / an...**

**See figure (MET-009) (1,00 P.)**

- front aloft.
- occlusion.
- warm front.
- cold front.



**77 What change in thermal activity may be expected with cirrus clouds coming up from one direction and becoming more dense, blocking the sun? (1,00 P.)**

- Cirrus clouds may intensify insolation and improve thermal activity
- Cirrus clouds indicate an high-level inversion with thermal activity ongoing up to that level
- Cirrus clouds prevent insolation and impair thermal activity.
- Cirrus clouds indicate instability and beginning of over-development

**78 What situation is referred to as "shielding"? (1,00 P.)**

- Coverage of Cumulus clouds, stated as part of eights of the sky
- Anvil-like structure at the upper levels of a thunderstorm cloud
- Ns clouds, covering the windward side of a mountain range
- High or mid-level cloud layers, impairing thermal activity

**79 What cloud sequence can typically be observed during the passage of a warm front? (1,00 P.)**

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

**80 What clouds and weather can typically be observed during the passage of a cold front? (1,00 P.)**

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

**81 What visual flight conditions can be expected within the warm sector of a polar front low during summer time? (1,00 P.)**

- Visibility less than 1000 m, cloud-covered ground
- Moderate visibility, heavy showers and thunderstorms
- Moderate to good visibility, scattered clouds
- Good visibility, some isolated high clouds

**82 What visual flight conditions can be expected after the passage of a cold front? (1,00 P.)**

- Medium visibility with lowering cloud bases, onset of prolonged precipitation
- Good visibility, formation of cumulus clouds with showers of rain or snow
- Scattered cloud layers, visibility more than 5 km, formation of shallow cumulus clouds
- Poor visibility, formation of overcast or ground-covering stratus clouds, snow

**83 An occlusion line is formed by succeeding... (1,00 P.)**

- warm air and preceding cold air.
- warm air and preceding warm air.
- cold air and preceding cold air.
- cold air and preceding warm air.

**84 A boundary between a cold polar air mass and a warm subtropical air mass showing no horizontal displacement is called... (1,00 P.)**

- occluded front.
- cold front.
- warm front.
- stationary front.

**85 What is the usual direction of movement of a polar front low? (1,00 P.)**

- Parallel to the the warm-sector isobars
- Parallel to the warm front line to the south
- To the northwest during winter, to the southwest during summer
- To the northeast during winter, to the southeast during summer

**86 What pressure pattern can be observed during the passage of a polar front low? (1,00 P.)**

- Falling pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- Falling pressure in front of the warm front, constant pressure within the warm sector, falling pressure behind the cold front
- Rising pressure in front of the warm front, rising pressure within the warm sector, falling pressure behind the cold front
- Rising pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front

**87 What pressure pattern can be observed when a cold front is passing? (1,00 P.)**

- Constant pressure pattern
- Continually decreasing pressure
- Shortly decreasing, thereafter increasing pressure
- Continually increasing pressure

**88 What change of wind direction can be expected during the passage of a polar front low in Central Europe? (1,00 P.)**

- Veering wind during passage of the warm front, backing wind during passage of the cold front
- Backing wind during passage of the warm front, veering wind during passage of the cold front
- Backing wind during passage of the warm front, backing wind during passage of the cold front
- Veering wind during passage of the warm front, veering wind during passage of the cold front

**89 Extensive high pressure areas can be found throughout the year ... (1,00 P.)**

- in mid latitudes along the polar front
- in tropical areas, close to the equator.
- over oceanic areas at latitudes around 30°N/S.
- in areas showing extensive lifting processes.

**90 What cloud type can typically be observed across widespread high pressure areas during summer? (1,00 P.)**

- Overcast Ns clouds
- Squall lines and thunderstorms
- Scattered Cu clouds
- Overcast low stratus

- 91 What pressure pattern may result from cold-air inflow in high tropospheric layers? (1,00 P.)**
- Formation of a high in the upper troposphere
  - Formation of a low in the upper troposphere
  - Alternating pressure
  - Formation of a large ground low
- 92 Cold air inflow in high tropospheric layers may result in... (1,00 P.)**
- stabilisation and calm weather.
  - showers and thunderstorms.
  - calm weather and cloud dissipation.
  - frontal weather.
- 93 How does inflowing cold air affect the shape and vertical distance between pressure layers? (1,00 P.)**
- Decrease in vertical distance, lowering in height (low pressure)
  - Increasing vertical distance, raise in height (high pressure)
  - Decreasing vertical distance, raise in height (high pressure)
  - Increase in vertical distance, lowering in height (low pressure)
- 94 What weather phenomena have to be expected around an upper-level trough? (1,00 P.)**
- Formation of high stratus clouds, ground-covering cloud bases
  - Development of showers and thunderstorms (Cb)
  - Calm wind, forming of shallow cumulus clouds
  - Calm weather, formation of lifted fog layers
- 95 What frontal line divides subtropical air from polar cold air, in particular across Central Europe? (1,00 P.)**
- Cold front
  - Polar front
  - Warm front
  - Occlusion
- 96 What weather conditions can be expected in high pressure areas during summer? (1,00 P.)**
- Calm winds and widespread areas with high fog
  - Changing weather with passing of frontal lines
  - Calm weather and cloud dissipation, few high Cu
  - Squall lines and thunderstorms

**97 What weather conditions in Central Europe are typically found in high pressure areas during summer? (1,00 P.)**

- Large isobar spacing with strong prevailing westerly winds
- Small isobar spacing with calm winds, formation of local wind systems
- Small isobar spacing with strong prevailing northerly winds
- Large isobar spacing with calm winds, formation of local wind systems

**98 What weather conditions can be expected in high pressure areas during winter? (1,00 P.)**

- Calm weather and cloud dissipation, few high Cu
- Calm winds and widespread areas with high fog
- Squall lines and thunderstorms
- Changing weather with passing of frontal lines

**99 What wind conditions can be expected in areas showing large distances between isobars? (1,00 P.)**

- Strong prevailing easterly winds with rapid backing
- Formation of local wind systems with strong prevailing westerly winds
- Variable winds, formation of local wind systems
- Strong prevailing westerly winds with rapid veering

**100 What weather conditions can be expected during "Foehn" on the windward side of a mountain range? (1,00 P.)**

- Scattered cumulus clouds with showers and thunderstorms
- Dissipating clouds with unusual warming, accompanied by strong, gusty winds
- Calm wind and forming of high stratus clouds (high fog)
- Layered clouds, mountains obscured, poor visibility, moderate or heavy rain

**101 Which of the stated wind phenomena will increase in speed since its path is narrowed by mountains? (1,00 P.)**

- Scirocco
- Bora
- Mistral
- Passat

**102 What is the name of the the cold, katabatic wind phenomena blowing from northeast into the Adriatic Sea? (1,00 P.)**

- Mistral
- Passat
- Bora
- Scirocco

**103 Which of the following conditions are most favourable for ice accretion? (1,00 P.)**

- Temperatures between 0° C and -12° C, presence of supercooled water droplets (clouds)
- Temperatures between -20° C and -40° C, presence of ice crystals (Ci clouds)
- Temperatures below 0° C, strong wind, sky clear of clouds
- Temperatures between +10° C and -30° C, presence of hail (clouds)

**104 What temperatures are most dangerous with respect to airframe icing? (1,00 P.)**

- 20° to -40° C
- +5° to -10° C
- +20° to -5° C
- 0° to -12° C

**105 Which type of ice forms by very small water droplets and ice crystals hitting the front surfaces of an aircraft? (1,00 P.)**

- Rime ice
- Mixed ice
- Hoar frost
- Clear ice

**106 Which type of ice forms by large, supercooled droplets hitting the front surfaces of an aircraft? (1,00 P.)**

- Hoar frost
- Clear ice
- Rime ice
- Mixed ice

**107 What situation may result in the occurrence of severe wind shear? (1,00 P.)**

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

**108 What conditions are favourable for the formation of thunderstorms? (1,00 P.)**

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

**109 What conditions are mandatory for the formation of thermal thunderstorms? (1,00 P.)**

- Absolutely stable atmosphere, high temperature and low humidity
- Absolutely stable atmosphere, high temperature and high humidity
- Conditionally unstable atmosphere, high temperature and high humidity
- Conditionally unstable atmosphere, low temperature and low humidity

**110 With regard to thunderstorms, strong up- and downdrafts appear during the... (1,00 P.)**

- dissipating stage.
- mature stage.
- thunderstorm stage.
- initial stage.

**111 Which stage of a thunderstorm is dominated by updrafts? (1,00 P.)**

- Dissipating stage
- Cumulus stage
- Upwind stage
- Mature stage

**112 What danger is most imminent when an aircraft is hit by lightning? (1,00 P.)**

- Explosion of electrical equipment in the cockpit
- Disturbed radio communication, static noise signals
- Surface overheat and damage to exposed aircraft parts
- Rapid cabin depressurization and smoke in the cabin

**113 Heavy downdrafts and strong wind shear close to the ground can be expected... (1,00 P.)**

- near the rainfall areas of heavy showers or thunderstorms.
- during warm summer days with high, flattened Cu clouds.
- during approach to an airfield at the coast with a strong sea breeze.
- during cold, clear nights with the formation of radiation fog.

**114 What phenomenon is caused by cold air downdrafts with precipitation from a fully developed thunderstorm cloud? (1,00 P.)**

- Freezing Rain
- Electrical discharge
- Anvil-head top of Cb cloud
- Gust front

- 115 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? (1,00 P.)**
- Thin Altostratus and Cirrostratus clouds with light and steady precipitation.
  - Overcast low stratus (high fog) with no precipitation.
  - Embedded CB with thunderstorms and showers of hail and/or rain.
  - Smooth, unstructured NS cloud with light drizzle or snow (during winter).
- 116 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? (1,00 P.)**
- Wind shear during descent, wind direction may change by 180°
  - Reduced visibility, maybe loss of sight to the airfield during final approach
  - Formation of medium to heavy clear ice on all aircraft surfaces
  - Heavy downdrafts within rainfall areas below thunderstorm clouds
- 117 What kind of reduction in visibility is not very sensitive to changes in temperature? (1,00 P.)**
- Radiation fog (FG)
  - Mist (BR)
  - Patches of fog (BCFG)
  - Haze (HZ)
- 118 Information about pressure patterns and frontal situation can be found in which chart? (1,00 P.)**
- surface weather chart.
  - wind chart.
  - Significant Weather Chart (SWC).
  - hypsometric chart.
- 119 Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts? (1,00 P.)**
- Surface weather chart
  - Prognostic chart
  - Wind chart
  - Hypsometric chart
- 120 What observational technique allows the collection of temperature and dewpoint data throughout the troposphere? (1,00 P.)**
- Pressure soundings
  - Release of weather balloons
  - Weather radar images
  - Satellite images

**121 What information can be obtained from satellite images? (1,00 P.)**

- Flight visibility, ground visibility, and ground contact
- Overview of cloud covers and front lines
- Turbulence and icing
- Temperature and dew point of environmental air

**122 What chart shows areas of precipitation? (1,00 P.)**

- GAFOR
- Radar picture
- Wind chart
- Satellite picture

**123 What information is NOT found on Low-Level Significant Weather Charts (LLSWC)? (1,00 P.)**

- Front lines and frontal displacements
- Information about turbulence areas
- Radar echos of precipitation
- Information about icing conditions

**124 Measured pressure distribution in MSL and corresponding frontal systems are displayed by the... (1,00 P.)**

- hypsometric chart.
- Significant Weather Chart (SWC).
- prognostic chart.
- surface weather chart.

**125 Weather reports, issued via pc\_met specifically for gliding activity ("Segelflugberichte"), when compared to other types of reports as overviews or GAFOR, include additional information about... (1,00 P.)**

- wind and temperatures at various altitudes.
- visual representation of the present cumulus clouds.
- time of onset and dissipation of expected thermal activity.
- hazards especially relevant for gliding activity.

**126 In a METAR, "heavy rain" is designated by the identifier... (1,00 P.)**

- RA.
- +SHRA.
- +RA.
- SHRA.

**127 In a METAR, "(moderate) showers of rain" are designated by the identifier... (1,00 P.)**

- TS.
- +RA.
- SHRA.
- +TSRA.

**128 What information can be found in the ATIS, but not in a METAR? (1,00 P.)**

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

**129 Weather and operational information about the destination aerodrome can be obtained during the flight by... (1,00 P.)**

- SIGMET.
- PIREP.
- VOLMET.
- ATIS.

**130 While planning a 500 km triangle flight, there is a squall line 100 km west of the departure airfield, extending from north to south, moving east.**

**Concerning the weather situation, what decision would be recommendable? (1,00 P.)**

- To postpone the flight to another day
- To plan the flight below cloud base of the thunderstorms
- During flight, to look for spacing between thunderstorms
- To change plans and start the triangle heading east

**131 SIGMET warnings are issued for... (1,00 P.)**

- specific routings.
- FIRs / UIRs.
- airports.
- countries.

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## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 40 – Communication



**Publisher:**

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If you have comments or suggestions for this question bank, please contact us at [info@aircademy.com](mailto:info@aircademy.com).

**1 What does the abbreviation "HX" stand for? (1,00 P.)**

- No specific opening hours
- Sunrise to sunset
- 24 h service
- Sunset to sunrise

**2 In which situations should a pilot use blind transmissions? (1,00 P.)**

- When the traffic situation at an airport allows the transmission of information which does not need to be acknowledged by the ground station
- When a transmission containing important navigational or technical information is to be sent to several stations at the same time
- When no radio communication can be established with the appropriate aeronautical station, but when evidence exists that transmissions are received at that ground unit
- When a pilot has flown into cloud or fog unintentionally and therefore would like to request navigational assistance from a ground unit

**3 Which abbreviation is used for the term "abeam"? (1,00 P.)**

- ABB
- ABE
- ABA
- ABM

**4 Which abbreviation is used for the term "visual flight rules"? (1,00 P.)**

- VFS
- VFR
- VMC
- VRU

**5 Which abbreviation is used for the term "obstacle"? (1,00 P.)**

- OBTC
- OBST
- OST
- OBS

**6 What does the abbreviation "FIS" stand for? (1,00 P.)**

- Flashing information system
- Flashing information service
- Flight information system
- Flight information service

**7 What does the abbreviation "FIR" stand for? (1,00 P.)**

- Flow integrity required
- Flow information radar
- Flight information region
- Flight integrity receiver

**8 What does the abbreviation "H24" stand for? (1,00 P.)**

- Sunset to sunrise
- Sunrise to sunset
- 24 h service
- No specific opening times

**9 The altimeter has to be set to what value in order to show zero on ground? (1,00 P.)**

- QNE
- QNH
- QFE
- QTE

**10 Which altitude is displayed on the altimeter when set to a specific QNH? (1,00 P.)**

- Altitude in relation to the air pressure at the reference airfield
- Altitude in relation to mean sea level
- Altitude in relation to the 1013.25 hPa datum
- Altitude in relation to the highest elevation within 10 km

**11 Which altitude is displayed on the altimeter when set to a specific QFE? (1,00 P.)**

- Altitude in relation to the highest elevation within 10 km
- Altitude in relation to the 1013.25 hPa datum
- Altitude in relation to the air pressure at the reference airfield
- Altitude in relation to mean sea level

**12 What does the abbreviation "QDR" stand for? (1,00 P.)**

- Magnetic bearing from the station
- True bearing to the station
- Magnetic bearing to the station
- True bearing from the station

**13 What does the abbreviation "QUJ" stand for? (1,00 P.)**

- Magnetic bearing to the station
- Magnetic bearing from the station
- True bearing from the station
- True bearing to the station

**14 What does the abbreviation "QTE" stand for? (1,00 P.)**

- Magnetic bearing from the station
- True bearing from the station
- True bearing to the station
- Magnetic bearing to the station

**15 Which Q-code is used for the magnetic bearing from the station? (1,00 P.)**

- QDR
- QDM
- QUJ
- QTE

**16 Which Q-code is used for the true bearing from the station? (1,00 P.)**

- QDM
- QUJ
- QDR
- QTE

**17 Which Q-code is used for the true bearing to the station? (1,00 P.)**

- QDR
- QDM
- QUJ
- QTE

**18 Which of the listed radiotelephony messages has a higher priority than a flight safety message? (1,00 P.)**

- Communication related to direction finding
- Flight regularity message
- Meteorological message
- Aircraft position report message

**19 What is the correct term for a message used for air traffic control? (1,00 P.)**

- Meteorological message
- Flight regularity message
- Flight safety message
- Message related to direction finding

**20 Distress messages are messages... (1,00 P.)**

- concerning the operation or maintenance of facilities which are important for the safety and regularity of flight operations.
- concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.
- concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- sent by a pilot or an aircraft operating agency which have an imminent meaning for aircraft in flight.

**21 Urgency messages are messages... (1,00 P.)**

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

**22 Regularity messages are messages... (1,00 P.)**

- sent by an aircraft operating agency or an aircraft of immediate concern to an aircraft in flight.
- concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- concerning the operation or maintenance of facilities essential for the safety or regularity of aircraft operation.
- concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.

**23 Which of the following messages has the highest priority? (1,00 P.)**

- Request QDM
- Wind 300 degrees, 5 knots
- QNH 1013
- Turn left

**24 What is the correct way to transmit the call sign HB-YKM? (1,00 P.)**

- Hotel Bravo Yankee Kilo Mike
- Home Bravo Yuliett Kilo Mike
- Home Bravo Yankee Kilo Mikro
- Hotel Bravo Yuliett Kilo Mikro

**25 What is the correct way to transmit the call sign OE-JVK? (1,00 P.)**

- Omega Echo Jankee Victor Kilo
- Oscar Echo Jankee Victor Kilogramm
- Oscar Echo Juliett Victor Kilo
- Omega Echo Juliett Victor Kilogramm

**26 An altitude of 4500 ft is transmitted as... (1,00 P.)**

- four tousand five zero zero.
- four tousand five hundred.
- four five zero zero.
- four five tousand.

**27 A heading of 285 degrees is correctly transmitted as... (1,00 P.)**

- two eight five.
- two eight five hundred.
- two hundred eighty-five.
- two hundred eight five.

**28 A frequency of 119.500 MHz is correctly transmitted as... (1,00 P.)**

- one one niner tousand decimal five zero.
- one one niner decimal five zero zero.
- one one niner decimal five zero.
- one one niner decimal five.

**29 The directional information "12 o'clock" is correctly transmitted as... (1,00 P.)**

- Twelve o'clock.
- One two hundred.
- One two.
- One two o'clock.

**30 Times are transmitted as... (1,00 P.)**

- UTC.
- local time.
- standard time.
- time zone time.

**31 If there is any doubt about ambiguity, a time of 1620 is to be transmitted as... (1,00 P.)**

- one tousand six hundred two zero.
- one six two zero.
- sixteen twenty.
- two zero.

**32 After a transmission the other station does not answer.**

**How long should you wait until transmitting again? (1,00 P.)**

- 30 seconds
- 5 seconds
- 10 seconds
- 20 seconds

**33 What is the meaning of the phrase "Roger"?**  
**(1,00 P.)**

- I understand your message and will comply with it
- An error has been made in this transmission. The correct version is...
- Permission for proposed action is granted
- I have received all of your last transmission

**34 What is the meaning of the phrase "Correction"?** (1,00 P.)

- I have received all of your last transmission
- An error has been made in this transmission. The correct version is...
- I understand your message and will comply with it
- Permission for proposed action is granted

**35 What is the meaning of the phrase "Approved"?** (1,00 P.)

- I understand your message and will comply with it
- Permission for proposed action is granted
- An error has been made in this transmission. The correct version is...
- I have received all of your last transmission

**36 Which phrase does a pilot use when he / she wants to check the readability of his / her transmission? (1,00 P.)**

- What is the communication like?
- You read me five
- How do you read?
- Request readability

**37 Which phrase is used by a pilot when he wants to fly through controlled airspace?**  
**(1,00 P.)**

- Apply
- Request
- Want
- Would like

**38 What phrase is used by a pilot if a transmission is to be answered with "yes"? (1,00 P.)**

- Affirm
- Roger
- Yes
- Affirmative

**39 What phrase is used by a pilot if a transmission is to be answered with "no"? (1,00 P.)**

- Negative
- Finish
- No
- Not

**40 Which phrase is to be used when a pilot wants the tower to know that he is ready for take-off? (1,00 P.)**

- Request take-off
- Ready for departure
- Ready
- Ready for start-up

**41 What phrase is used by a pilot to inform the tower about a go-around? (1,00 P.)**

- Pulling up
- Going around
- Approach canceled
- No landing

**42 What is the call sign of the aerodrome control? (1,00 P.)**

- Ground
- Tower
- Airfield
- Control

**43 What is the call sign of the surface movement control? (1,00 P.)**

- Ground
- Control
- Tower
- Earth

**44 What is the call sign of the flight information service? (1,00 P.)**

- Info
- Information
- Advice
- Flight information

**45 What is the correct abbreviation of the call sign D-EAZF? (1,00 P.)**

- AZF
- DEF
- DEA
- DZF

**46 In what case is the pilot allowed to abbreviate the call sign of his aircraft? (1,00 P.)**

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

**47 What is the correct way of using the aircraft call sign at first contact? (1,00 P.)**

- Using the first two characters only
- Using the first three characters only
- Using the last two characters only
- Using all characters

**48 What is the correct way of establishing radio communication between D-EAZF and Dusseldorf Tower? (1,00 P.)**

- Tower from D-EAZF
- Dusseldorf Tower over
- DEAZF is calling Dusseldorf Tower
- Dusseldorf Tower D-EAZF

**49 What is the correct way of acknowledging the instruction "Call Hamburg Tower on 121.275"?**

**(1,00 P.)**

- Call tower on 121.275
- Call 121.275
- Call tower
- 121.275

**50 What does a readability of 1 indicate? (1,00 P.)**

- The transmission is unreadable
- The transmission is readable now and then
- The transmission is readable but with difficulty
- The transmission is perfectly readable

**51 What does a readability of 2 indicate? (1,00 P.)**

- The transmission is readable now and then
- The transmission is unreadable
- The transmission is perfectly readable
- The transmission is readable but with difficulty

**52 What does a readability of 3 indicate? (1,00 P.)**

- The transmission is readable but with difficulty
- The transmission is perfectly readable
- The transmission is unreadable
- The transmission is readable now and then

**53 What does a readability of 5 indicate? (1,00 P.)**

- The transmission is readable but with difficulty
- The transmission is unreadable
- The transmission is readable now and then
- The transmission is perfectly readable

**54 How long should a test transmission to check the equipment take as a maximum? (1,00 P.)**

- 5 seconds
- 15 seconds
- 10 seconds
- 20 seconds

**55 Which information from a ground station does not require readback? (1,00 P.)**

- Altitude
- SSR-Code
- Wind
- Runway in use

**56 Which information from a ground station does not require readback? (1,00 P.)**

- Altimeter setting
- Heading
- Taxi instructions
- Traffic information

**57 What is the correct way of acknowledging the instruction "DZF after lift-off climb straight ahead until 2500 feet before turning right heading 220 degrees, wind 090 degrees, 5 knots, runway 12, cleared for take-off"? (1,00 P.)**

- DZF after lift-off climb straight ahead 2500 feet, wilco, heading 220 degrees, 090 degrees, 5 knots, cleared for take-off
- DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, runway 12, cleared for take-off
- DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots
- DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots, cleared for take-off

**58 What is the correct way of acknowledging the instruction "Next report PAH"? (1,00 P.)**

- Report PAH
- Wilco
- Roger
- Positive

**59 What is the correct way of acknowledging the instruction "Squawk 4321, Call Bremen Radar on 131.325"? (1,00 P.)**

- Squawk 4321, 131.325
- Squawk 4321, wilco
- Wilco
- Roger

**60 What is the correct way of acknowledging "You are now entering airspace Delta"? (1,00 P.)**

- Roger
- Airspace Delta
- Wilco
- Entering

- 61 What does a cloud coverage of "FEW" mean in a METAR weather report? (1,00 P.)**
- 3 to 4 eighths
  - 1 to 2 eighths
  - 8 eighths
  - 5 to 7 eighths
- 62 What does a cloud coverage of "SCT" mean in a METAR weather report? (1,00 P.)**
- 1 to 2 eighths
  - 5 to 7 eighths
  - 8 eighths
  - 3 to 4 eighths
- 63 What does a cloud coverage of "BKN" mean in a METAR weather report? (1,00 P.)**
- 3 to 4 eighths
  - 8 eighths
  - 1 to 2 eighths
  - 5 to 7 eighths
- 64 Given a visibility of 12 km, what is the correct way to transmit this visibility? (1,00 P.)**
- Twelve kilometers.
  - One-zero kilometers.
  - One-zero kilometers or more.
  - One-two kilometers.
- 65 In what case is visibility transmitted in meters? (1,00 P.)**
- Up to 5 km
  - Greater than 10 km
  - Greater than 5 km
  - Up to 10 km
- 66 In what cases is visibility transmitted in kilometers? (1,00 P.)**
- Greater than 10 km
  - Up to 10 km
  - Up to 5 km
  - Greater than 5 km

**67 What information is broadcasted on a VOLMET frequency? (1,00 P.)**

- Current information
- Meteorological information
- Navigational information
- NOTAMS

**68 Which navigation facility may be used for broadcasting the ATIS? (1,00 P.)**

- NDB
- GPS
- DME
- VOR

**69 How can you obtain meteorological information concerning airports during a cross-country flight? (1,00 P.)**

- VOLMET
- METAR
- GAMET
- AIRMET

**70 An ATIS is valid for... (1,00 P.)**

- 30 minutes.
- 60 minutes.
- 45 minutes.
- 10 minutes.

**71 Which transponder code indicates a radio failure? (1,00 P.)**

- 7700
- 7600
- 7000
- 7500

**72 What is the correct phrase to begin a blind transmission? (1,00 P.)**

- Blind
- Listen
- Transmitting blind
- No reception

**73 On what frequency shall a blind transmission be made? (1,00 P.)**

- On the appropriate FIS frequency
- On a radar frequency of the lower airspace
- On a tower frequency
- On the current frequency

**74 How often shall a blind transmission be made? (1,00 P.)**

- Two times
- One time
- Three times
- Four times

**75 In what situation is it appropriate to set the transponder code 7600? (1,00 P.)**

- Loss of radio
- Emergency
- Hijacking
- Flight into clouds

**76 What is the correct course of action when experiencing a radio failure in class D airspace? (1,00 P.)**

- The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left by the shortest route
- The flight has to be continued according to the last clearance complying with VFR flight rules or the airspace has to be left using a standard routing
- The flight has to be continued according to the last clearance complying with VFR rules or the airspace has to be left by the shortest route
- The flight has to be continued above 5000 feet complying with VFR flight rules or the airspace has to be left using a standard routing

**77 Under what conditions may class D airspace be entered with a radio failure? (1,00 P.)**

- Approval has been granted before
- It is the destination aerodrome
- It is the aerodrome of departure
- There are other aircraft in the aerodrome circuit

**78 Distress messages contain... (1,00 P.)**

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

**79 What is the correct frequency for an initial distress message? (1,00 P.)**

- Current frequency
- Radar frequency
- FIS frequency
- Emergency frequency

**80 The correct transponder code for emergencies is... (1,00 P.)**

- 7600.
- 7700.
- 7500.
- 7000.

**81 Which phrase is to be repeated three times before transmitting an urgency message? (1,00 P.)**

- Mayday
- Urgent
- Help
- Pan Pan

**82 Urgency messages are defined as... (1,00 P.)**

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

**83 What kind of information should be included in an urgency message? (1,00 P.)**

- Nature of problem or observation, important information for support, departure aerodrome, information about position, heading and altitude
- Intended routing, important information for support, intentions of the pilot, departure aerodrome, destination aerodrome, heading and altitude
- Nature of problem or observation, important information for support, intentions of the pilot, information about position, heading and altitude
- Intended routing, important information for support, intentions of the pilot, information about position, departure aerodrome, heading and altitude

**84 Which of the following frequencies is designated for VHF voice communication? (1,00 P.)**

- 327.25 MHz
- 118.75 kHz
- 327.25 kHz
- 118.75 MHz

**85 Which of the following frequencies is designated for VHF voice communication? (1,00 P.)**

- 115.15 MHz
- 120.50 MHz
- 117.30 kHz
- 108.80 MHz

**86 What is the correct designation of the frequency band from 118.000 to 136.975 MHz used for voice communication? (1,00 P.)**

- MF
- LF
- HF
- VHF

**87 Which of the following factors affects the reception of VHF transmissions? (1,00 P.)**

- Shoreline effect
- Twilight error
- Height of ionosphere
- Altitude

**88 What is the approximate speed of electromagnetic wave propagation? (1,00 P.)**

- 300000 km/s
- 123000 m/s
- 300000 m/s
- 123000 km/s



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## Part-FCL Fragenkatalog

# SPL

*gemäß Verordnung (EU) 1178/2011*

*und*

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

*(Auszug)*

# 51 – Grundlagen des Fluges (Flugzeug)



**Herausgeber:**

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**1 The static pressure of gases work... (1,00 P.)**

- only in the direction of the total pressure.
- in all directions.
- only in flow direction.
- only vertical to the flow direction.

**2 Bernoulli's equation for frictionless, incompressible gases states that... (1,00 P.)**

- static pressure = total pressure + dynamic pressure.
- total pressure = dynamic pressure - static pressure.
- total pressure = dynamic pressure + static pressure.
- dynamic pressure = total pressure + static pressure.

**3 If surrounded by airflow ( $v > 0$ ), any arbitrarily shaped body produces... (1,00 P.)**

- lift without drag.
- drag and lift.
- drag.
- constant drag at any speed.

**4 All aerodynamic forces can be considered to act on a single point.****This point is called... (1,00 P.)**

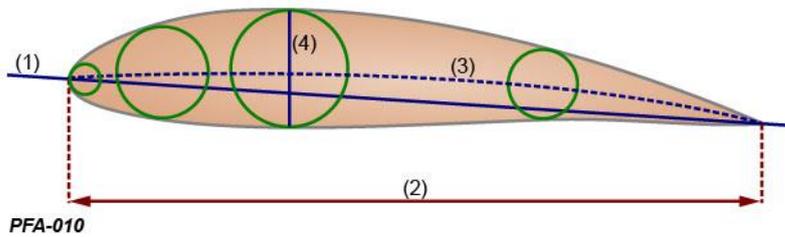
- center of gravity.
- transition point.
- center of pressure.
- lift point.

**5 The center of pressure is the theoretical point of origin of... (1,00 P.)**

- gravity and aerodynamic forces.
- all aerodynamic forces of the profile.
- gravity forces of the profile.
- only the resulting total drag.

**6 Number 2 in the drawing corresponds to the...****See figure (PFA-010) (1,00 P.)**

- chord line.
- chord.
- profile thickness.
- angle of attack.

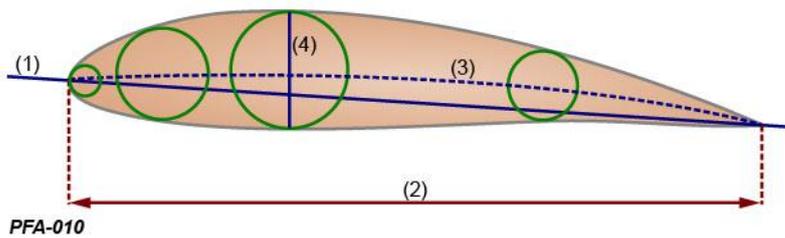


PFA-010

7 Number 3 in the drawing corresponds to the...

See figure (PFA-010) (1,00 P.)

- chord line.
- thickness.
- camber line.
- chord.



PFA-010

8 The angle of attack is the angle between... (1,00 P.)

- the chord line and the oncoming airflow.
- the undisturbed airflow and the longitudinal axis of an aeroplane.
- the wing and the fuselage of an aeroplane.
- the chord line and the longitudinal axis of an aeroplane.

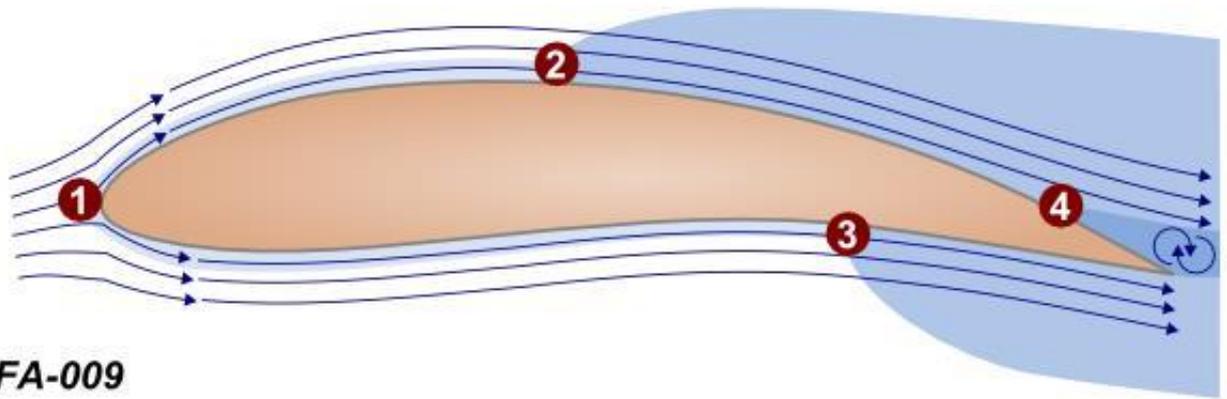
9 The ratio of span and mean chord length is referred to as... (1,00 P.)

- aspect ratio.
- wing sweep.
- tapering.
- trapezium shape.

10 Which point on the aerofoil is represented by number 3?

See figure (PFA-009) (1,00 P.)

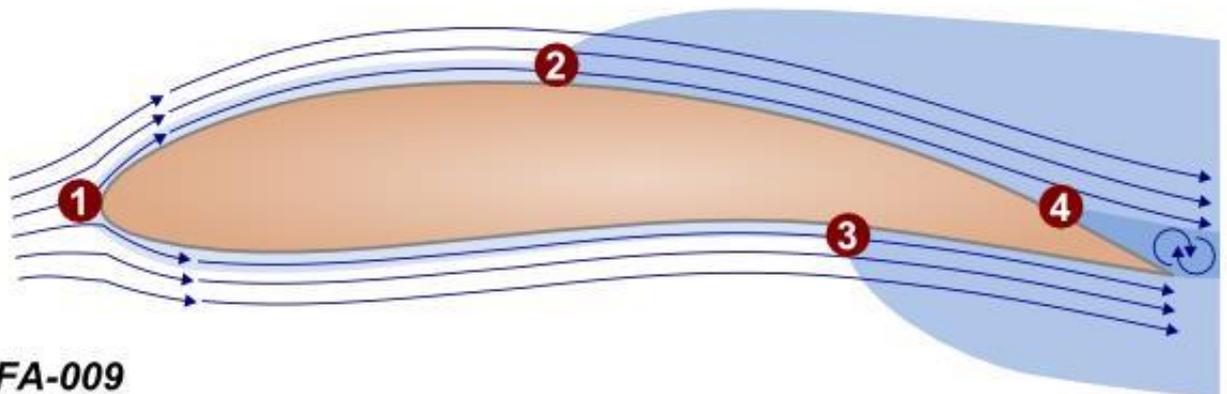
- Transition point
- Center of pressure
- Stagnation point
- Separation point



11 Which point on the aerofoil is represented by number 4?

See figure (PFA-009) (1,00 P.)

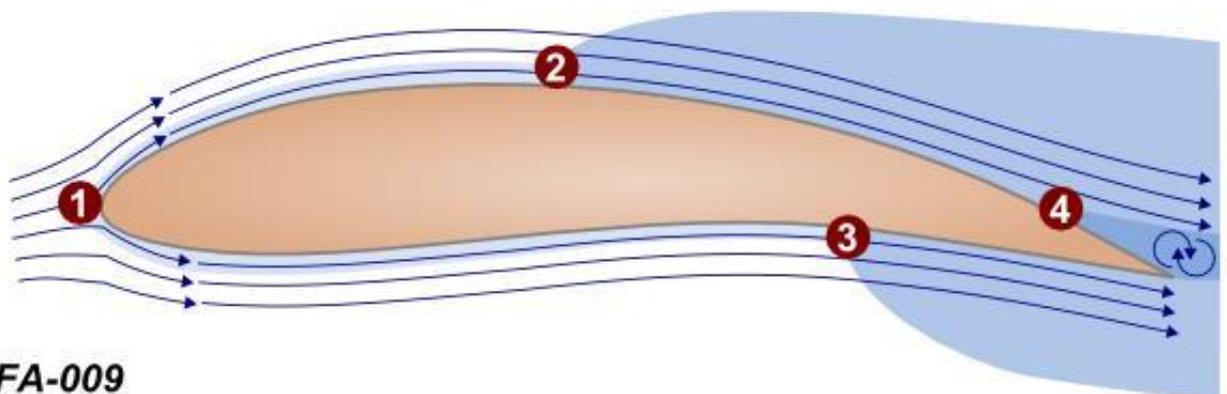
- Center of pressure
- Transition point
- Stagnation point
- Separation point



12 Which point on the aerofoil is represented by number 1?

See figure (PFA-009) (1,00 P.)

- Separation point
- Center of pressure
- Transition point
- Stagnation point



- 13 What pattern can be found at the stagnation point? (1,00 P.)**
- The boundary layer starts separating on the upper surface of the profile
  - Streamlines are divided into airflow above and below the profile
  - All aerodynamic forces can be considered as attacking at this single point
  - The laminar boundary layer changes into a turbulent boundary layer
- 14 What pressure pattern can be observed at a lift-generating wing profile at positive angle of attack? (1,00 P.)**
- Pressure above remains unchanged, higher pressure is created below the profile
  - Pressure below remains unchanged, lower pressure is created above the profile
  - High pressure is created above, lower pressure below the profile
  - Low pressure is created above, higher pressure below the profile
- 15 The position of the the center of pressure at a positively shaped profile... (1,00 P.)**
- is located at approximately 25% of the chord, measured from the leading edge.
  - moves to the trailing edge while the angle of attack becomes smaller.
  - moves to the leading edge while the angle of attack becomes smaller.
  
  - does not move since it is independent of the angle of attack.
- 16 In which way does the position of the center of pressure move at a positively shaped profile with increasing angle of attack? (1,00 P.)**
- It moves forward until reaching the critical angle of attack
  - It moves backward until reaching the critical angle of attack
  - It moves to the wing tips
  - It moves forward first, then backward
- 17 Which statement about lift and angle of attack is correct? (1,00 P.)**
- Too large angles of attack can lead to an exponential increase in lift
  - Increasing the angle of attack results in less lift being generated by the aerofoil
  - Increasing the angle of attack too far may result in a loss of lift and an airflow separation
  - Decreasing the angle of attack results in more drag being generated by the aerofoil
- 18 Which statement about the airflow around an aerofoil is correct if the angle of attack increases? (1,00 P.)**
- The stagnation point moves down
  - The center of pressure moves up
  - The center of pressure moves down
  - The stagnation point moves up

19 Which statement about the airflow around an aerofoil is correct if the angle of attack decreases? (1,00 P.)

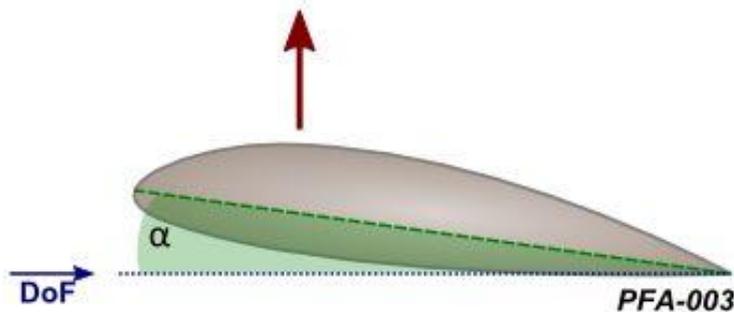
- The center of pressure moves aft
- The stagnation point remains constant
- The center of pressure moves forward
- The stagnation point moves down

20 The angle (alpha) shown in the figure is referred to as...

See figure (PFA-003)

DoF: direction of airflow (1,00 P.)

- angle of incidence.
- angle of attack.
- lift angle.
- angle of inclination.



21 In order to improve the stall characteristics of an aircraft, the wing is twisted outwards (the angle of incidence varies spanwise).

This is known as... (1,00 P.)

- arrow shape.
- V-form.
- aerodynamic washout.
- geometric washout.

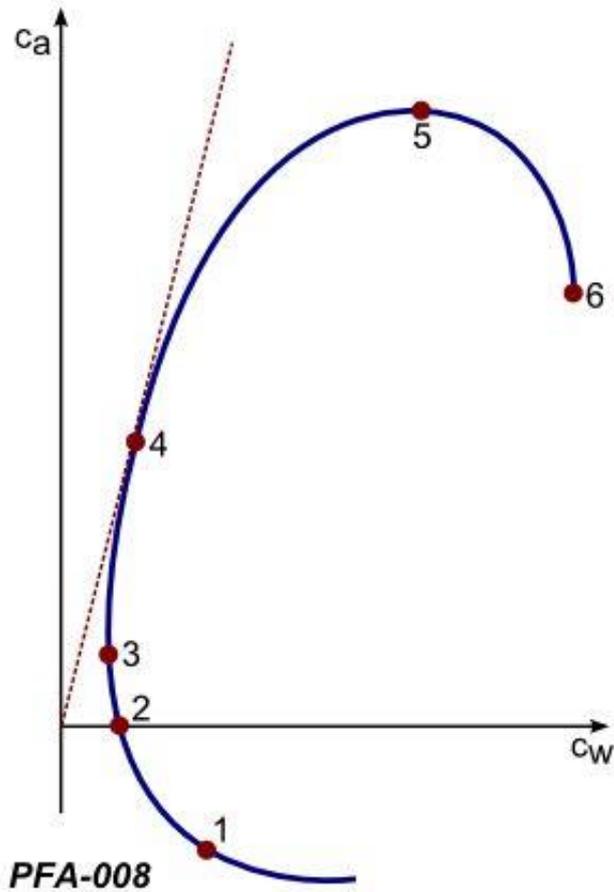
22 Which option states a benefit of wing washout? (1,00 P.)

- With the washout the form drag reduces at high speeds
- Greater hardness because the wing can withstand more torsion forces
- At high angles of attack the effectiveness of the aileron is retained as long as possible
- Structurally the wing is made more rigid against rotation

23 Point number 1 in the figure indicates which flight state?

See figure (PFA-008) (1,00 P.)

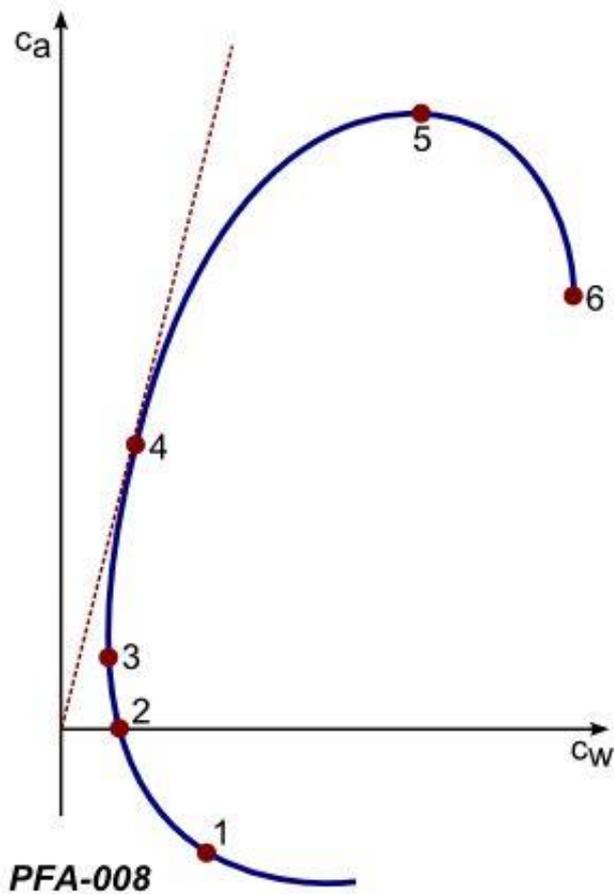
- Best gliding angle
- Stall
- Inverted flight
- Slow flight



24 Point number 5 in the figure indicates which flight state?

See figure (PFA-008) (1,00 P.)

- Stall
- Slow flight
- Inverted flight
- Best gliding angle



**25 Which statement concerning the angle of attack is correct? (1,00 P.)**

- Increasing the angle of attack results in decreasing lift
- The angle of attack cannot be negative
- The angle of attack is constant throughout the flight
- A too large angle of attack may result in a loss of lift

**26 When increasing the airflow speed by a factor of 2 while keeping all other parameters constant, how does the parasite drag change approximately? (1,00 P.)**

- It decreases by a factor of 2
- It decreases by a factor of 4
- It increases by a factor of 2
- It increases by a factor of 4

**27 The drag coefficient... (1,00 P.)**

- may range from zero to an infinite positive value.
- is proportional to the lift coefficient.
- cannot be lower than a non-negative, minimal value.
- increases with increasing airspeed.

**28 Pressure compensation on an wing occurs at the... (1,00 P.)**

- wing roots.
- leading edge.
- wing tips.
- trailing edge.

**29 Which of the following options is likely to produce large induced drag? (1,00 P.)**

- Tapered wings
- Large aspect ratio
- Low lift coefficients
- Small aspect ratio

**30 Which parts of an aircraft mainly affect the generation of induced drag? (1,00 P.)**

- the front part of the fuselage.
- the outer part of the ailerons.
- the wing tips.
- the lower part of the gear.

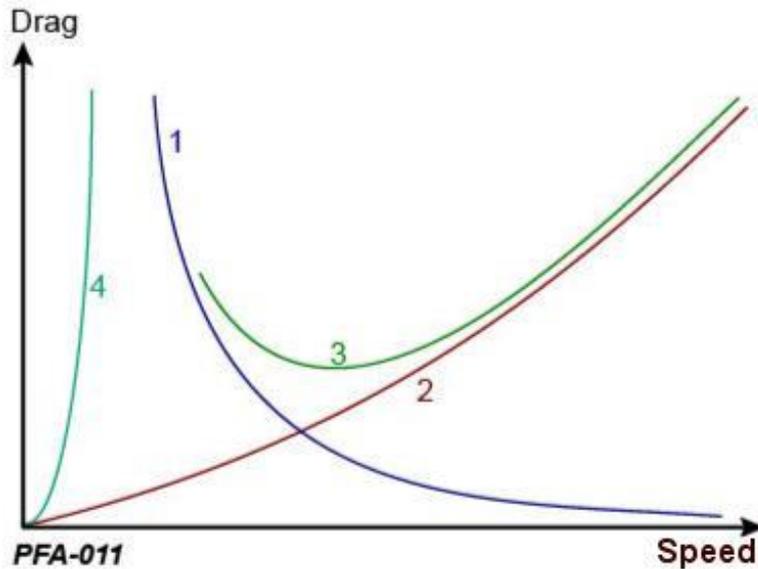
**31 Where is interference drag generated? (1,00 P.)**

- At the ailerons
- Near the wing tips
- At the wing root
- At the the gear

**32 Which curve represents the induced drag?**

**See Appendix (PFA-011)  
(1,00 P.)**

- 3
- 2
- 1
- 4



33 Pressure drag, interference drag and friction drag belong to the group of the... (1,00 P.)

- total drag.
- main resistance.
- parasite drag.
- induced drag.

34 What kind of drag is NOT part of the parasite drag? (1,00 P.)

- Induced drag
- Skin-friction drag
- Form drag
- Interference drag

35 How do induced drag and parasite drag change with increasing airspeed during a horizontal and stable cruise flight? (1,00 P.)

- Parasite drag decreases and induced drag decreases
- Parasite drag decreases and induced drag increases
- Induced drag decreases and parasite drag increases
- Induced drag increases and parasite drag increases

36 Which of the listed wing shapes has the lowest induced drag? (1,00 P.)

- Double trapezoidal shape
- Trapezoidal shape
- Rectangular shape
- Elliptical shape

**37 Which effect does a decreasing airspeed have on the induced drag during a horizontal and stable cruise flight? (1,00 P.)**

- The induced drag will slightly decrease
- The induced drag will remain constant
- The induced drag will collapse
- The induced drag will increase

**38 Which statement about induced drag during the horizontal cruise flight is correct? (1,00 P.)**

- Induced drag decreases with increasing airspeed
- Induced drag has a minimum at a certain speed and increases at higher as well as lower speeds
- Induced drag increases with increasing airspeed
- Induced drag has a maximum at a certain speed and decreases at higher as well as lower speeds

**39 In which mentioned situation is the total drag at its minimum? (1,00 P.)**

- Parasite drag is twice as much as induced drag
- Parasite drag is equal to induced drag
- Induced drag is twice as much as parasite drag
  
- Induced drag is smaller than parasite drag

**40 Which kinds of drag contribute to total drag? (1,00 P.)**

- Interference drag and parasite drag
- Induced drag, form drag, skin-friction drag
- Form drag, skin-friction drag, interference drag
- Induced drag and parasite drag

**41 How do lift and drag change when approaching a stall condition? (1,00 P.)**

- Lift decreases and drag increases
- Lift increases and drag decreases
- Lift and drag increase
- Lift and drag decrease

**42 In case of a stall it is important to... (1,00 P.)**

- increase the angle of attack and reduce the speed.
- increase the angle of attack and increase the speed.
- increase the bank angle and reduce the speed.
- decrease the angle of attack and increase the speed.

**43 During a stall, the lift... (1,00 P.)**

- decreases and drag decreases.
- increases and drag increases.
- decreases and drag increases.
- increases and drag decreases.

**44 The critical angle of attack... (1,00 P.)**

- changes with increasing weight.
- increases with backward center of gravity position.
- is independent of the weight.
- decreases with forward center of gravity position.

**45 What is the result of extending flaps with increasing aerofoil camber? (1,00 P.)**

- Maximum permissible speed increases
- Minimum speed decreases
- Minimum speed increases
- C.G. position moves forward

**46 What leads to a decreased stall speed  $V_s$  (IAS)? (1,00 P.)**

- Lower density
- Decreasing weight
- Higher load factor
- Lower altitude

**47 Which statement regarding a spin is correct? (1,00 P.)**

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

**48 The laminar boundary layer on the aerofoil is located between... (1,00 P.)**

- the transition point and the center of pressure.
- the stagnation point and the transition point.
- the transition point and the separation point.
- the stagnation point and the center of pressure.

**49 What types of boundary layers can be found on an aerofoil? (1,00 P.)**

- Laminar boundary layer along the complete upper surface with non-separated airflow
- Laminar layer at the leading wing areas, turbulent boundary layer at the trailing areas
- Turbulent boundary layer along the complete upper surface with separated airflow
- Turbulent layer at the leading wing areas, laminar boundary layer at the trailing areas

**50 How does a laminar boundary layer differ from a turbulent boundary layer? (1,00 P.)**

- The turbulent boundary layer is thicker and provides less skin-friction drag
- The laminar boundary layer is thinner and provides more skin-friction drag
- The laminar boundary layer produces lift, the turbulent boundary layer produces drag
- The turbulent boundary layer can follow the airfoil camber at higher angles of attack

**51 In icing conditions, at which point will the most ice arise on an aeroplane? (1,00 P.)**

- On the upper and lower side of the wing's trailing edge
- On all frontal areas of the airframe, the wings, and the tail
- On the upper and lower side of the control surfaces
- On the pitot tube and the static pressure ports

**52 What structural item provides lateral stability to an airplane? (1,00 P.)**

- Elevator
- Vertical tail
- Wing dihedral
- Differential aileron deflection

**53 Which statement describes a situation of static stability? (1,00 P.)**

- An aircraft distorted by external impact will return to the original position
- An aircraft distorted by external impact will tend to an even more deflected position
- An aircraft distorted by external impact can return to its original position by rudder input
- An aircraft distorted by external impact will maintain the deflected position

**54 With regard to the forces acting, how can stationary gliding be described? (1,00 P.)**

- The lift force compensates the drag force
- The sum of air forces compensates the gravity force
- The sum the air forces acts along with the lift force
- The sum of air forces acts along the direction of air flow

**55 Which force does NOT act during straight and level flight? (1,00 P.)**

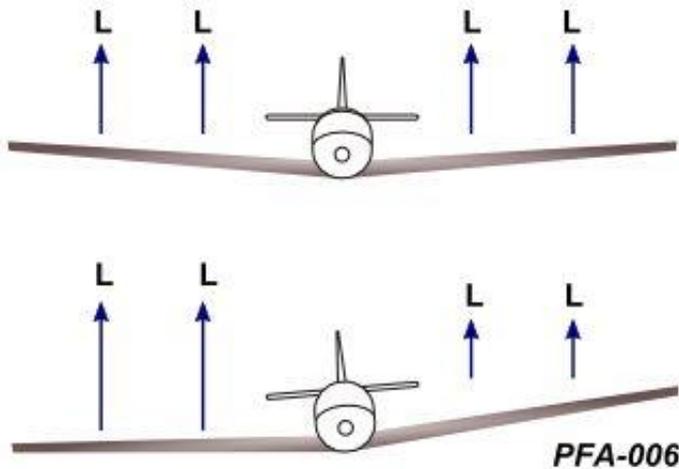
- Lift force
- Drag force
- Centrifugal force
- Gravitational force

56 Which constructive feature is shown in the figure?

See figure (PFA-006)

L: Lift (1,00 P.)

- Directional stability by lift generation
- Longitudinal stability by wing dihedral
- Differential aileron deflection
- Lateral stability by wing dihedral



57 Stabilization around the lateral axis during cruise is achieved by the... (1,00 P.)

- ailerons.
- horizontal stabilizer.
- wing flaps.
- vertical rudder.

58 "Longitudinal stability" is referred to as stability around which axis? (1,00 P.)

- Lateral axis
- Propeller axis
- Vertical axis
- Longitudinal axis

59 Stability around which axis is mainly influenced by the center of gravity's longitudinal position? (1,00 P.)

- Vertical axis
- Gravity axis
- Lateral axis
- Longitudinal axis

**60 What structural item provides directional stability to an airplane? (1,00 P.)**

- Large elevator
- Wing dihedral
- Differential aileron deflection
- Large vertical tail

**61 Rotation around the vertical axis is called... (1,00 P.)**

- slipping.
- rolling.
- yawing.
- pitching.

**62 Rotation around the lateral axis is called... (1,00 P.)**

- rolling.
- pitching.
- yawing.
- stalling.

**63 The critical angle of attack... (1,00 P.)**

- is not changed by different aircraft weights.
- increases with a front centre of gravity.
- is changed by different aircraft weights.
- decreases with a rear centre of gravity.

**64 In straight and level flight with constant performance of the engine, the angle of attack at the wing is... (1,00 P.)**

- smaller than in a descent.
- smaller than in a climb.
- greater than at take-off.
- greater than in a climb.

**65 What is the function of the horizontal tail (among other things)? (1,00 P.)**

- To initiate a curve around the vertical axis
- To stabilise the aeroplane around the lateral axis
- To stabilise the aeroplane around the vertical axis
- To stabilise the aeroplane around the longitudinal axis

**66 The elevator deflection for a specific maneuver... (1,00 P.)**

- is increased with a rear centre of gravity.
- is increased at high speeds.
- is increased with a front centre of gravity.
- is independent of the speed.

**67 The elevator moves an aeroplane around the... (1,00 P.)**

- longitudinal axis.
- elevator axis.
- lateral axis.
- vertical axis.

**68 Considering longitudinal stability, which C.G. position is most dangerous with a normal gliding plane? (1,00 P.)**

- Position too far aside permissible C.G. limits.
- Position far back within permissible C.G. limits
- Position beyond the rear C.G. limit
- Position beyond the front C.G. limit

**69 What has to be considered with regard to the center of gravity position? (1,00 P.)**

- By moving the elevator trim tab, the center of gravity can be shifted into a correct position.
- The center of gravity's position can only be determined during flight.
- Only correct loading can assure a correct and safe center of gravity position.
- By moving the aileron trim tab, the center of gravity can be shifted into a correct position.

**70 Rudder deflections result in a turn of the aeroplane around the... (1,00 P.)**

- longitudinal axis.
- vertical axis.
- lateral axis.
- rudder axis.

**71 Deflecting the rudder to the left causes... (1,00 P.)**

- yawing of the aircraft to the left.
- pitching of the aircraft to the right.
- pitching of the aircraft to the left.
- yawing of the aircraft to the right.

**72 What is the advantage of differential aileron movement? (1,00 P.)**

- The adverse yaw is higher
- The ratio of the drag coefficient to lift coefficient is increased
- The total lift remains constant during aileron deflection
- The drag of the downwards deflected aileron is lowered and the adverse yaw is smaller

**73 Which design feature can compensate for adverse yaw? (1,00 P.)**

- Differential aileron deflection
- Full deflection of the aileron
- Wing dihedral
- Aileron trim

**74 Differential aileron deflection is used to... (1,00 P.)**

- reduce wake turbulence.
- increase the rate of descent.
- keep the adverse yaw low.
- avoid a stall at low angles of attack.

**75 The right aileron deflects upwards, the left downwards.****How does the aircraft react? (1,00 P.)**

- Rolling to the right, yawing to the right
- Rolling to the left, no yawing
- Rolling to the left, yawing to the right
- Rolling to the right, yawing to the left

**76 The aerodynamic rudder balance... (1,00 P.)**

- improves the rudder effectiveness.
- reduces the control stick forces.
- delays the stall.
- reduces the control surfaces.

**77 Which constructive feature has the purpose to reduce steering forces? (1,00 P.)**

- Aerodynamic rudder balance
- Differential aileron deflection
- T-tail
- Vortex generators

**78 What is the function of the static rudder balance? (1,00 P.)**

- To trim the controls almost without any force
- To limit the control stick forces
- To increase the control stick forces
- To prevent control surface flutter

**79 What is a bendable trim tab? (1,00 P.)**

- A trim device adjustable in flight
- A fixed tab attached to the rudder or the aileron
- A balance mass at a control surface
- A term for a rudder balance

**80 The trim tab at the elevator is deflected upwards.**

**In which position is the corresponding indicator? (1,00 P.)**

- Laterally trimmed
- Nose-up position
- Neutral position
- Nose-down position

**81 What describes "wing loading"? (1,00 P.)**

- Drag per weight
- Wing area per weight
- Weight per wing area
- Drag per wing area

**82 Flying with speeds higher than the never-exceed-speed (vNE) may result in... (1,00 P.)**

- flutter and mechanically damaging the wings.
- an increased lift-to-drag ratio and a better glide angle.
- too high total pressure resulting in an unusable airspeed indicator.
- reduced drag with increased control forces.

**83 Through which factor listed below does the load factor increase during cruise flight? (1,00 P.)**

- A forward centre of gravity
- Lower air density
- An upward gust
- Higher aeroplane weight

**84 In a co-ordinated turn, how is the relation between the load factor (n) and the stall speed (Vs)? (1,00 P.)**

- n is smaller than 1, Vs is greater than in straight and level flight.
- n is greater than 1, Vs is greater than in straight and level flight.
- n is smaller than 1, Vs is smaller than in straight and level flight.
- n is greater than 1, Vs is smaller than in straight and level flight.

**85 How is the balance of forces affected during a turn? (1,00 P.)**

- The horizontal component of the lift force during a turn is the centrifugal force
- Lift force must be increased to compensate for the sum of centrifugal and gravitational force
- A lower lift force compensates for a lower net force as compared to level flight
- The net force results from superposition of gravity and centripetal forces

**86 Following a single-wing stall and pitch-down moment, how can a spin be prevented? (1,00 P.)**

- Pushing the elevator to build up speed to re-attach airflow on wings
- Deflect all rudders opposite to lower wing
- Rudder opposite lower wing, releasing elevator to build up speed
- Pulling the elevator to bring the plane back to normal attitude

**87 During approach to the next updraft, the vertical speed indicator reads 3 m/s descent. Within the updraft you expect a mean rate of climb of 2 m/s.****According McCready, how should you adjust the speed during approach of the updraft? (1,00 P.)**

- The McCready ring should be set to 2 m/s, the recommended speed can be read at the McCready scale next to the sum of current rate of descent at expected rate of climb (5 m/s).
- The McCready ring should be set to 3 m/s, the recommended speed can be read at the McCready scale next to the expected rate of climb (2 m/s).
- Outside of thermal cells, the McCready ring should be set to 0 m/s, the recommended speed can be read at the McCready scale next to the current rate of descent (3 m/s).
- The McCready ring should be set to 2 m/s, the recommended speed can be read at the McCready scale next to the current rate of descent (3 m/s).

**88 A sailplane is operated with additional water ballast.**

**How do best gliding angle and speed of best glide change, when compared to flying without water ballast? (1,00 P.)**

- best gliding angle remains unchanged, best glide speed increases.
- best gliding angle remains increases, best glide speed increases.
- best gliding angle decreases, best glide speed decreases.
- best gliding angle remains unchanged, best glide speed decreases.

**89 What has to be considered when operating a sailplane with water ballast? (1,00 P.)**

- Best glide angle decreases.
- Best glide speed decreases.
- Significant CG shifts.
- It should stay below freezing level.

**90 What has to be considered when operating a sailplane equipped with camber flaps? (1,00 P.)**

- During winch launch, camber must be set to full positive.
- During approach and landing, camber must not be changed from positive to negative.
- During approach and landing, camber must not be changed from negative to positive.
- During winch launch, camber must be set to full negative.

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## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 60 – Operational Procedures



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**1 The term "flight time" is defined as... (1,00 P.)**

- the total time from the first aircraft movement until the moment it finally comes to rest at the end of the flight.
- the period from engine start for the purpose of taking off to leaving the aircraft after engine shutdown.
- the total time from the first take-off until the last landing in conjunction with one or more consecutive flights.
- the period from the start of the take-off run to the final touchdown when landing.

**2 During a cross-country flight, visual meteorological conditions tend to become below minimum conditions.**

**To continue the flight according to minimum visual conditions, the pilot decides to... (1,00 P.)**

- turn back due to sufficient visual meteorological conditions along the previous track
- continue the flight using radio navigational features along the track
- continue the flight using navigational aid by ATC
- continue the flight referring to sufficient forecasts

**3 Trim masses or lead plates must be secured firmly when installed into a gliding plane, so that... (1,00 P.)**

- the glider pilot will not be hurt during flight in thermal turbulences.
- a comfortable seat position will be assured for the glider pilot.
- the maximum allowed mass will not be exceeded.
- they will not block rudders or induce any C.G. shift.

**4 A wind shear is... (1,00 P.)**

- a meteorological downslope wind phenomenon in the alps.
- a vertical or horizontal change of wind speed and wind direction.
- a slow increase of the wind speed in altitudes above 13000 ft.
- a wind speed change of more than 15 kt.

**5 During an approach the aeroplane experiences a windshear with a decreasing headwind.**

**If the pilot does not make any corrections, how do the approach path and the indicated airspeed (IAS) change? (1,00 P.)**

- Path is higher, IAS decreases
- Path is higher, IAS increases
- Path is lower, IAS decreases
- Path is lower, IAS increases

- 6 During an approach the aeroplane experiences a windshear with an increasing headwind.**

**If the pilot does not make any corrections, how do the approach path and the indicated airspeed (IAS) change? (1,00 P.)**

- Path is lower, IAS increases
- Path is higher, IAS increases
- Path is higher, IAS decreases
- Path is lower, IAS decreases

- 7 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? (1,00 P.)**

- Path is lower, IAS increases
- Path is higher, IAS decreases
- Path is lower, IAS decreases
- Path is higher, IAS increases

- 8 Which of the following weather phenomena is most hazardous during approach and landing close to frontal thunderstorms? (1,00 P.)**

- Falling pressure
- Gusts
- Precipitation
- Decrease in temperature

- 9 How can a wind shear encounter in flight be avoided? (1,00 P.)**

- Avoid thermally active areas, particularly during summer, or stay below these areas
- Avoid take-offs and landings in mountainous terrain and stay in flat country whenever possible
- Avoid take-off and landing during the passage of heavy showers or thunderstorms
- Avoid areas of precipitation, particularly during winter, and choose low flight altitudes

- 10 A plane flying below an extended Cumulus cloud developing into a thunderstorm, the glider plane quickly approaches the cloud base.**

**What actions have to be taken by the glider pilot? (1,00 P.)**

- Climb into thunderstorm cloud, continue flight using instruments
- Reduce to minimum speed, leave thermal lift area in a flat turn
- Fasten seat belts, be aware of severe gust during further thermaling
- Extend spoiler flaps within speed limits, leave thermal lift area with maximum permissible speed

**11 Which area is suitable for an off-field landing? (1,00 P.)**

- Glade with long dry grass
- Harvested cornfield
- Sports area in a village
- Plowed field

**12 A precautionary landing is a landing... (1,00 P.)**

- conducted with the flaps retracted.
- conducted in an attempt to sustain flight safety.
- conducted without power from the engine.
- conducted in response to circumstances forcing the aircraft to land.

**13 Which of the following landing areas is most suitable for an off-field landing? (1,00 P.)**

- A lake with an undisturbed surface
- A light brown field with short crops
- A meadow without livestock
- A field with ripe waving crops

**14 Flying slow close to stall conditions, the left wings is lower than the right wing.****How can the stall be prevented? (1,00 P.)**

- Aileron and rudder to the reight, gain some speed, push slightly on the elevator, all rudders neutral
- Push on the elevator, keep wings level with coordinated inputs on rudder and aileron
- Rudder left, push slightly on the elevator, gain some speed, all rudders neutral
- Airleron to the right, push slightly on the elevator, gain some speed, all rudders neutral

**15 A gliding plane is about to pitch down due to stall.****What rudder input can prevent nose-dive and spin? (1,00 P.)**

- Keep airplane in level flight using rudder pedals
- Slightly pull the elevator, ailerons opposite to lower wing
- Release elevator, rudder opposite to lower wing
- Ailerons neutral, rudder strongly kicked to lower wing

**16 What color has the emergency hood release handle? (1,00 P.)**

- Blue
- Red
- Green
- Yellow

**17 During a winch launch, after reaching full climb attitude, the airspeed indicator fails.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Continue launch to normal altitude, use horizontal image and airstream noise to conduct flight as planned
- Try to re-establish airspeed indication by abrupt changes of speed during launch
- Push elevator, decouple cable and perform short pattern with minimum speed
- Continue launch to normal altitude, use horizontal image and airstream noise for pattern and landing right away

**18 What has to be expected with ice accretion on wings? (1,00 P.)**

- An increased stall speed
- Improved slow flight capabilities
- A decreased stall speed
- Reduced friction drag

**19 Despite several attempts, the landing gear can be extended, but not locked.**

**How should the landing be conducted? (1,00 P.)**

- Keep a firm grip on gear handle during normal landing
- Retract landing gear and perform belly landing with minimum speed
- Retract gear and perform belly landing with increased speed
- Keep gear unlocked and perform normal landing

**20 When flying into heavy snowfall, most dangerous will be the... (1,00 P.)**

- sudden increase in airplane mass.
- sudden blockage of pitot-static system.
- sudden loss of visibility.
- sudden increase of airframe icing.

**21 When airtowing using side-located latch, the gliding plane tends to... (1,00 P.)**

- show particularly stable flight characteristics.
- quickly turn around longitudinal axis.
- show enhanced turn to latch-mounted side.
- show enhanced pitch up moment.

**22 A gliding plane being airtowed gets into an excessive high position behind the towing plane.**

**What action by the glider pilot can prevent further danger for glider and towing plane? (1,00 P.)**

- Push strongly to bring glider back to normal position
- Pull strongly, thereafter decouple the cable
- Carefully extend spoiler flaps, steer glider back into normal position
- Initiate a sideslip to reduce excessive height

**23 In case of a cable break during winch launch, what actions should be taken in the correct order? (1,00 P.)**

- Decouple cable, thereafter push nose down; at heights up to 150m GND land straight ahead with increased speed
- Keep elevator pulled, stabilize on minimum speed and land on remaining field length
- Initiate 180° turn and land opposite to runway heading in use, decouple cable before touch down
- Push firmly nose down, decouple cable, depending on terrain and wind decide for short pattern or landing straight ahead

**24 During initial winch launch, one wing of a glider plane gets ground contact.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Ailerons in opposite direction
- Decouple cable immediately
- Pull the elevator
- Rudder in opposite direction

**25 During airtow, the gliding plane exceeds its maximum permissible speed.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Pull elevator to reduce speed
- Message to airfield controller via radio
- Extend spoiler flaps
- Decouple cable immediately

- 26 In case of cable break during airtow, a longer part of the cable remains attached to the glider plane.**

**What action should be taken by the glider pilot?**

**(1,00 P.)**

- Perform low approach and request information about cable length by airfield controller, decouple if necessary
- Decouple immediately and proceed with coupling unlatched
- Conduct normal approach, release cable immediately after ground contact
- When in safe height, drop cable overhead empty terrain or overhead airfield

- 27 During airtow, the towing plane disappears from the glider pilot's sight.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Alternate push and pull on the elevator
- Alternate turn to the left and to the right
- Decouple cable immediately
- Extend spoiler flaps and return to normal attitude

- 28 During airtow, in a turn the glider plane gets into an outward off-set position.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Take up same bank angle as towing plane and return glider plane to a position behind towing plane using rudder pedals
- Initiate sideslip and let glider plane be pushed back to a position behind towing plane by increased drag
- Bring back glider plane to intended turning attitude using rudder and ailerons, extend spoiler flaps to reduce speed
- Return glider plane to a position behind towing plane by a smaller curve radius using strong inputs on rudder pedals

- 29 During a winch launch, just after stabilizing full climb attitude, the pull on cable suddenly stops.**

**What action should be taken by the glider pilot? (1,00 P.)**

- Pull on elevator to increase cable tension
- Push slightly, wait for pull on cable to be re-established
- Inform winch driver by alternate aileron input
- Push firmly and decouple cable immediately

- 30 Before the launch using a parallel-cable winch, the glider pilot realizes the second cable laying close to his glider about to launch.**

**What actions should be taken by the glider pilot?  
(1,00 P.)**

- Keep an eye on second cable, decouple after takeoff if necessary
- Conduct normal takeoff, inform airfield controller after landing
- Decouple cable immediately, inform airfield controller via radio
- Continue launch with rudder input on opposite direction to second cable

- 31 What is the purpose of the breaking points on a winch cable?  
(1,00 P.)**

- It protects the winch from being overshot by the glider plane
- It is used to limit the rate of climb during winch launch
- It is used for automatic cable release after winch launch
- It prevents excessive stress on the glider plane

- 32 During the last phase of a winch launch, the glider pilot does not release pull on the elevator. The automatic latch releases the cable at high wing load.**

**What consequences have to be considered? (1,00 P.)**

- Only by this sudden jerk the release of the cable can be assured
- A higher altitude can be reached using this technique
- This technique can compensate for insufficient wind correction
- Extreme stress on the structure of the glider plane

- 33 Why is it not allowed to launch with the C.G. positioned beyond the aft limit? (1,00 P.)**

- Because maximum permissible speed will be reduced significantly
- Because structural limits may be exceeded
- Because rudder inputs may not be sufficient for controlling flight attitude
- Because increased nose-down moment may not be compensated

- 34 What negative impacts may be expected during circling overhead industrial facilities?  
(1,00 P.)**

- Very poor visibility of only few hundred meters and heavy precipitation
- Extended, strong downwind areas on the lee side of the facility
- Strong electrostatic charging and deterioration in radio communication
- Health impairments by pollutants, reduced visibility and turbulences

**35 Collisions during circling within thermal updrafts can be avoided by... (1,00 P.)**

- fast approach into the updraft and rapidly pulling the elevator for slower speed.
- alternate circling with opposite directions in different heights.
- imitating the movements of the preceding gliding plane.
- coordination of plane movements with other aircrafts circling within the same updraft.

**36 When commencing a steep turn, what has to be considered by the pilot? (1,00 P.)**

- After achieving bank angle, push the elevator to increase speed
- Commence turn with increased speed according to aimed bank angle
- After achieving bank angle, reduce yaw using opposite rudder
- Commence turn with reduced speed according to aimed bank angle

**37 During a high altitude flight (6000 m MSL), the glider pilot realizes that oxygen will be consumed within a few minutes.****What actions should be taken by the glider pilot? (1,00 P.)**

- After depletion of oxygen, stay at that altitude no longer than 30 min
- At first indication of hypoxia, commence descent with maximum allowed speed
- Extend spoiler flaps, descent with maximum permissible speed
- Reduce oxygen flow by breathing slowly

**38 When a pilot gets into a strong downwind area during slope soaring, what action should be recommended? (1,00 P.)**

- Increase speed and head away from the ridge
- Continue flight, downwinds around mountains only occur shortly
- Increase speed and conduct landing parallel to ridge
- Increase speed and get closer to the ridge

**39 When landing with tailwind, the pilot has to... (1,00 P.)**

- land with gear retracted to shorten ground roll distance.
- increase approach speed.
- approach with normal speed and shallow angle.
- compensate tailwind by sideslip.

- 40 During approach, tower provides the following information: "Wind 15 knots, gusts 25 knots".**

**How should the landing be performed? (1,00 P.)**

- Approach with normal speed, maintain speed using spoiler flaps
- Approach with minimum speed, correct changes in attitude with careful rudder inputs
- Approach with increased speed, correct changes in attitude with firm rudder inputs
- Approach with increased speed, avoid usage of spoiler flaps

- 41 Off-field landing may be prone to accident when... (1,00 P.)**

- the decision to land off-field is made too late.
- the decision is made above minimum safe altitude.
- the approach is conducted using distinct approach segments.
- the approach is conducted onto a harvested corn field.

- 42 How can dangerous situations be prevented when the gliding plane approaches close to a pattern altitude during a cross-country flight? (1,00 P.)**

- Try to reach cumulus clouds visible at the far horizon and use their thermal updrafts
- Search for thermal updrafts on the lee side of a selected landing field
- Maintain radio communication up to full stop after off-field landing
- Despite the planned flight, decide for an off-field landing

- 43 A glider pilot has to conduct an off-field landing in a mountainous region. The only available landing site is highly inclined.**

**How should the landing be conducted? (1,00 P.)**

- According to prevailant wind, approach and land parallel to the ridge with headwind
- Approach with increased speed, quick flare to follow the inclined ground
- Approach down the ridge with increased speed, push according to ground level during landing
- Approach with minimum speed, careful flare when reaching the landing site

- 44 An off-field landing with tailwind is inevitable.**

**How should the landing be conducted? (1,00 P.)**

- Approach with increased speed without use of spoiler flaps
- Approach with reduced speed, expect shorter flare and ground roll distance
- Normal approach, when reaching landing site, extend spoiler flaps and push down elevator
- Approach with normal speed, expect longer flare and ground roll distance

- 45 After landing, you realize you lost your pen which might have fallen down in the cockpit of the sailplane.**

**What has to be considered?  
(1,00 P.)**

- Succeeding pilots have to be informed about that.
- Before next take-off, the cockpit has to be firmly inspected for loose bodies.
- Lighter, loose bodies in the fuselage can be considered uncritical.
- A flight without a pen at hand is not permitted.

- 46 During flight close to aerodrome in about 250 m AGL you encounter strong descent and go for a safety landing.**

**What speed should be flown when heading towards the airfield? (1,00 P.)**

- Maximum manoeuvring speed  $V_A$
- Minimum rate of descent speed
- Best glide speed plus additional for downdrafts and wind
- Best glide speed

- 47 During approach for landing with strong crosswind, how should the turn from base to final be flown? (1,00 P.)**

- Turn with maximum 30° bank, carefully watch speed and yaw string, track correction after overshoot.
- Maximum 30° bank, use rudder to early align sailplane with final track.
- Maximum 60° bank, use rudder to early align sailplane with final track.
- Turn with maximum 60° bank, carefully watch speed and yaw string, track correction after overshoot.

- 48 During final approach, you realize that you missed to extend the gear.**

**How should the landing be conducted? (1,00 P.)**

- You land without gear with higher than usual speed.
- You extend the gear immediately and land as usual.
- You land without gear, and carefully touch down with minimum speed.
- You retract flaps, extend the gear and land as usual.

**49 During thermal soaring, another sailplane is following close by.**

**What should be done to avoid a collision?**

**(1,00 P.)**

- You reduce speed to let the other sailplane fly by
- You increase bank to be better seen from the other sailplane
- You reduce bank to achieve a larger turn radius
- You increase speed to achieve a position opposite in the circle

**50 Which terrain is most suitable to provide useable thermals?**

**(1,00 P.)**

- The lee side of a mountain range
- A forrest
- A lake
- A sandy stone quarry

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## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 70 – Flight Performance and Planning



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**1 Exceeding the maximum allowed aircraft mass is... (1,00 P.)**

- not permissible and essentially dangerous.
- exceptionally permissible to avoid delays.
- only relevant if the excess is more than 10 %.
- compensated by the pilot's control inputs.

**2 The center of gravity has to be located... (1,00 P.)**

- behind the rear C.G. limit.
- between the front and the rear C.G. limit.
- right of the lateral C. G. limit.
- in front of the front C.G. limit.

**3 An aircraft must be loaded and operated in such a way that the center of gravity (CG) stays within the approved limits during all phases of flight.****This is done to ensure... (1,00 P.)**

- both stability and controllability of the aircraft.
- that the aircraft does not exceed the maximum permissible airspeed during a descent.
- that the aircraft does not stall.
- that the aircraft does not tip over on its tail while it is being loaded.

**4 The empty weight and the corresponding center of gravity (CG) of an aircraft are initially determined... (1,00 P.)**

- by weighing.
- by calculation.
- through data provided by the aircraft manufacturer.
- for one aircraft of a type only, since all aircraft of the same type have the same mass and CG position.

**5 Baggage and cargo must be properly stowed and fastened, otherwise a shift of the cargo may cause... (1,00 P.)**

- uncontrollable attitudes, structural damage, risk of injuries.
- calculable instability if the C.G. is shifting by less than 10 %.
- continuous attitudes which can be corrected by the pilot using the flight controls.
  
- structural damage, angle of attack stability, velocity stability.

**6 The total weight of an aeroplane is acting vertically through the... (1,00 P.)**

- stagnation point.
- neutral point.
- center of gravity.
- center of pressure.

**7 The term "center of gravity" is defined as... (1,00 P.)**

- the point at which the total mass of the aeroplane is considered to act.
- half the distance between the neutral point and the datum line.
- another designation for the neutral point.
- the heaviest point on an aeroplane.

**8 The center of gravity (CG) defines... (1,00 P.)**

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

**9 The term "moment" with regard to a mass and balance calculation is referred to as... (1,00 P.)**

- sum of a mass and a balance arm.
- difference of a mass and a balance arm.
- product of a mass and a balance arm.
- quotient of a mass and a balance arm.

**10 The term "balance arm" in the context of a mass and balance calculation defines the... (1,00 P.)**

- point on the longitudinal axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
- distance from the datum to the center of gravity of a mass.
- distance of a mass from the center of gravity.
- point through which the force of gravity is said to act on a mass.

**11 The distance between the center of gravity and the datum is called... (1,00 P.)**

- lever.
- balance arm.
- torque.
- span width.

**12 The balance arm is the horizontal distance between... (1,00 P.)**

- the front C.G. limit and the datum line.
- the C.G. of a mass and the datum line.
- the C.G. of a mass and the rear C.G. limit.
- the front C.G. limit and the rear C.G. limit.

- 13 The required data for a mass and balance calculation including masses and balance arms can be found in the... (1,00 P.)**
- performance section of the pilot's operating handbook of this particular aircraft.
  - mass and balance section of the pilot's operating handbook of this particular aircraft.
  - documentation of the annual inspection.
  - certificate of airworthiness.
- 14 Which section of the flight manual describes the basic empty mass of an aircraft? (1,00 P.)**
- Normal procedures
  - Limitations
  - Performance
  - Weight and balance
- 15 Which factor shortens landing distance? (1,00 P.)**
- High density altitude
  - High pressure altitude
  - Heavy rain
  - Strong head wind
- 16 Unless the aircraft is equipped and certified accordingly... (1,00 P.)**
- flight into forecast icing conditions is prohibited. Should the aircraft enter an area of icing conditions inadvertently, the flight may be continued as long as visual meteorological conditions are maintained.
  - flight into areas of precipitation is prohibited.
  - flight into known or forecast icing conditions is prohibited. Should the aircraft enter an area of icing conditions inadvertently, it should be left without delay.
  - flight into known or forecast icing conditions is only allowed as long as it is ensured that the aircraft can still be operated without performance degradation.
- 17 The angle of descent is defined as... (1,00 P.)**
- the ratio between the change in height and the horizontal distance travelled within the same time, expressed in percent [%].
  - the ratio between the change in height and the horizontal distance distance travelled within the same time, expressed in degrees [°].
  - the angle between a horizontal plane and the actual flight path, expressed in degrees [°].
  - the angle between a horizontal plane and the actual flight path, expressed in percent [%].
- 18 What is the purpose of "interception lines" in visual navigation? (1,00 P.)**
- To mark the next available en-route airport during the flight
  - They are used as easily recognizable guidance upon a possible loss of orientation
  - To visualize the range limitation from the departure aerodrome
  - They help to continue the flight when flight visibility drops below VFR minima

**19 The upper limit of LO R 16 equals...****See annex (PFP-056) (1,00 P.)****Siehe Anlage 1**

- 1 500 ft MSL.
- FL150.
- 1 500 m MSL.
- 1.500 ft GND.

**20 The upper limit of LO R 4 equals...****See annex (PFP-030) (1,00 P.)****Siehe Anlage 2**

- 1.500 ft MSL.
- 1.500 ft AGL.
- 4.500 ft AGL.
- 4.500 ft MSL.

**21 While planning a cross country gliding flight, what ground structure should be avoided enroute? (1,00 P.)**

- Highways, railroad tracks and channels.
- Moist ground, water areas, marsh areas.
- Areas with buildings, concrete and asphalt.
- Stone quarries and large sand areas.

**22 During a cross-country flight, you approach a downwind turning point.****The point should be taken ... (2,00 P.)**

- as high as possible.
- with as less bank as possible.
- as steep as possible.
- as low as possible.

**23 After getting around a turning point, what should a glider pilot be prepared for? (2,00 P.)**

- For increased cloud dissipation due to the progressing time
- For a changed horizontal picture due to lower cloud bases
- For weakening thermals due to the progressing time
- For a changed cloud picture due to the apparently changed position of the sun

**24 Up to which altitude is an overflight prohibited according to the NOTAM?****See figure (PFP-024) (1,00 P.)**

- Flight Level 95
- Altitude 9500 ft MSL
- Height 9500 ft
- Altitude 9500 m MSL

**PFP-024**

A4604/11 NOTAMN

Q)

EDWW/QROLP/IV/NBO/W/000/095/5155N01037E004

A) EDWW

B) 1111180800 C) 1111181200

E) OVERFLYING PROHIBITED FOR ALL TRAFFIC RADIUS  
3.35NM CENTERED AROUND 515436N 0103725E DUE  
TO DEMOLITION OF EXPLOSIVES AT ECKERTHAL,  
(25NM S BRAUNSCHWEIG NDB BRU).

F) GND

G) 9500 FT AMSL

**25 What must be considered for cross-border flights? (1,00 P.)**

- Transmission of hazard reports
- Regular location messages
- Requires flight plans
- Approved exceptions

**26 During a flight, a flight plan can be filed at the... (1,00 P.)**

- Search and Rescue Service (SAR).
- Flight Information Service (FIS).
- Aeronautical Information Service (AIS).
- next airport operator en-route.

**27 (For this question, please use annex PFP-061)**

**According ICAO, what symbol indicates a group of unlighted obstacles? (2,00 P.)**

**Siehe Anlage 3**

- A
- C
- D
- B

**28 (For this question, please use annex PFP-062)**

**According ICAO, what symbol indicates a civil airport (not international airport) with paved runway? (2,00 P.)**

**Siehe Anlage 4**

- A
- C
- B
- D

**29 (For this question, please use annex PFP-063)**

**According ICAO, what symbol indicates a general spot elevation? (2,00 P.)**

**Siehe Anlage 5**

- D
- A
- B
- C

**30 The Empty Mass of a gas balloon includes: (1,00 P.)**

- Basket, basket ring, Valve, net, hull and towing rope.
- Basket, burner, ballast packages, hull, net and towing rope.
- Ballast packages, basket, hull, valve and towing rope.
- Burner, ballast packages, instruments, net and towing rope.

- 31 A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 6 cm in the chart has been passed within 9 minutes.**

**After how many more minutes, the overflight of another waypoint at a chart distance of additional 4 cm can be expected? (1,00 P.)**

- 18 min.
- 9 min.
- 6 min.
- 12 min.

- 32 A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 4 cm in the chart has been passed within 12 minutes.**

**After how many more minutes, the overflight of another waypoint at a chart distance of additional 6 cm can be expected? (1,00 P.)**

- 9 min.
- 6 min.
- 12 min.
- 18 min.

- 33 While overflying a waypoint, it is stated that a distance of 2 NM has been taken 10 min.**

**What will be the expected time of endurance for the complete distance of 18 NM? (1,00 P.)**

- 180 min.
- 60 min.
- 12 min.
- 90 min.

- 34 While overflying a waypoint, it is stated that a distance of 3 NM has been taken 10 min.**

**What will be the expected time of endurance for the complete distance of 18 NM? (1,00 P.)**

- 60 min.
- 90 min.
- 180 min.
- 12 min.

- 35 While overflying a waypoint, it is stated that a distance of 3 NM has been taken 10 min.**

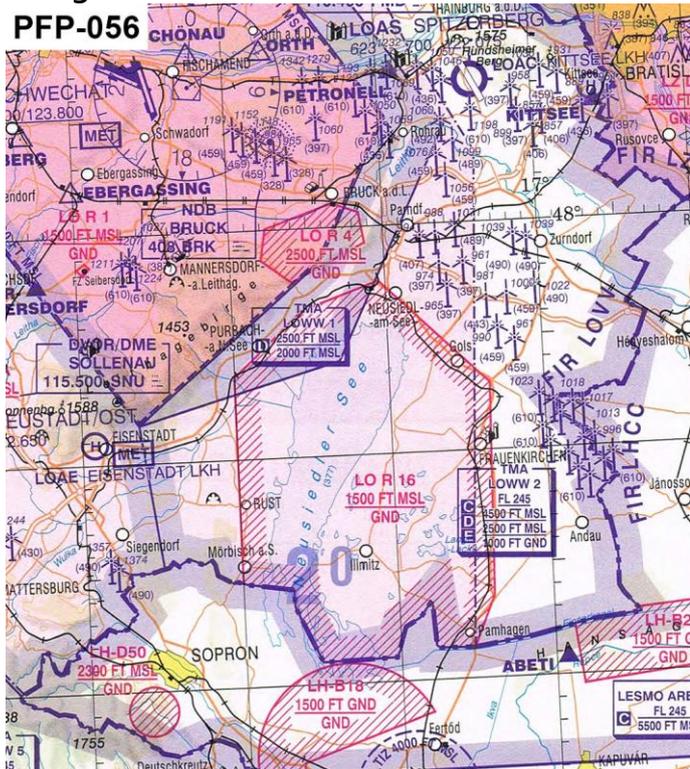
**What will be the expected time of endurance for the remaining distance of 18 NM?**

**(1,00 P.)**

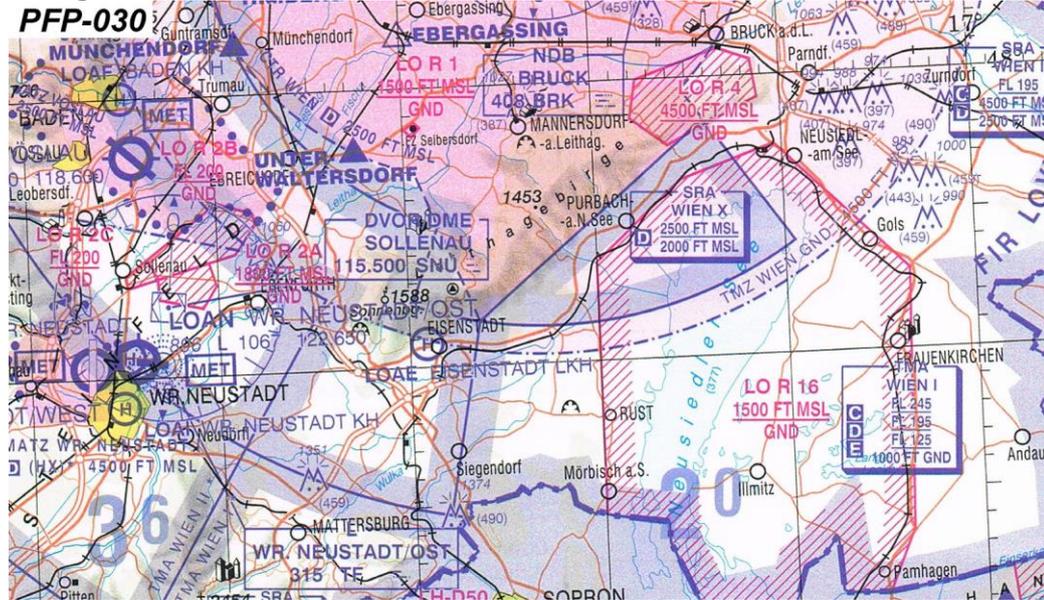
- 60 min.
- 12 min.
- 180 min.
- 90 min.

# Anlage 1

## PPF-056



## Anlage 2



Anlage 3



PFP-061

## Anlage 4

A 

B 

C 

D 

PFP-062

Anlage 5

A 300

B (300)

C · 1737

D · 1737

PPF-063

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## Part-FCL Fragenkatalog

# SPL

*gemäß Verordnung (EU) 1178/2011*

*und*

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

*(Auszug)*

# 80 – Allgemeine Luftfahrzeugkunde



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- 1 The mass loaded on the plane is lower than the minimum load required by the load sheet.**

**What action has to be taken? (1,00 P.)**

- Change incident angle of elevator
- Change pilot seat position
- Trim aircraft to "pitch down"
- Load ballast weight up to minimum load

- 2 Water ballast increases wing load by 40%.**

**By what percentage does the minimum speed of the glider plane increase? (1,00 P.)**

- 18%
- 40%
- 100%
- 200%

- 3 The maximum load according load sheet has been exceeded.**

**What action has to be taken? (1,00 P.)**

- Increase speed by 15%
- Trim "pitch-up"
- Reduce load
- Trim "pitch-down"

- 4 What kind of defect results in loss of airworthiness of an airplane? (1,00 P.)**

- Crack in the cabin hood plastic
- Damage to load-bearing parts
- Scratch on the outer painting
- Dirty wing leading edge

- 5 The thickness of the wing is defined as the distance between the lower and the upper side of the wing at the... (1,00 P.)**

- thickest part of the wing.
- thinnest part of the wing.
- most inner part of the wing.
- most outer part of the wing.

**6 How is referred to a tubular steel construction with a non self-supporting skin? (1,00 P.)**

- Monocoque construction
- Grid construction
- Semi-monocoque construction.
  
- Honeycomb structure

**7 A construction made of frames and stringer with a supporting skin is called... (1,00 P.)**

- Semi-monocoque construction.
- Wood- or mixed construction.
- Honeycomb structure.
- Grid construction.

**8 What are the major components of an aircraft's tail? (1,00 P.)**

- Ailerons and elevator
  
- Steering wheel and pedals
- Horizontal tail and vertical tail
- Rudder and ailerons

**9 Primary fuselage structures of wood or metal planes are usually made up by what components? (1,00 P.)**

- Covers, stringers and forming parts
- Frames and stringer
- Rips, frames and covers
  
- Girders, ribs and stringers

**10 The sandwich structure consists of two... (1,00 P.)**

- thin layers and a light core material.
- thick layers and a light core material.
- thin layers and a heavy core material.
- thick layers and a heavy core material.

**11 Which constructional elements give the wing its profile shape? (1,00 P.)**

- Tip
- Spar
- Planking
- Ribs

**12 The load factor "n" describes the relationship between... (1,00 P.)**

- lift and weight.
- weight and thrust.
- drag and lift.
- thrust and drag.

**13 Which are the advantages of sandwich structures? (1,00 P.)**

- Good formability and high temperature durability
- High temperature durability and low weight
- High strength and good formability
- Low weight, high stiffness, high stability, and high strength

**14 Which of the stated materials shows the highest strength? (1,00 P.)**

- Carbon fiber re-inforced plastic
- Magnesium
- Aluminium
- Wood

**15 About how many axes does an aircraft move and how are these axes called? (1,00 P.)**

- 4; vertical axis, lateral axis, longitudinal axis, axis of speed
- 4; optical axis, imaginary axis, sagged axis, axis of evil
- 3; vertical axis, lateral axis, longitudinal axis
- 3; x-axis, y-axis, z-axis

**16 A movement around the longitudinal axis is primarily initiated by the... (1,00 P.)**

- trim tab.
- elevator.
- ailerons.
- rudder.

**17 How are the flight controls on a small single-engine piston aircraft normally controlled and actuated? (1,00 P.)**

- Hydraulically through hydraulic pumps and actuators
- Manually through rods and control cables
- Power-assisted through hydraulic pumps or electric motors
- Electrically through fly-by-wire

- 18 What are the primary and the secondary effects of a rudder input to the left? (1,00 P.)**
- Primary: yaw to the left  
Secondary: roll to the right
  - Primary: yaw to the right  
Secondary: roll to the right
  - Primary: yaw to the right  
Secondary: roll to the left
  - Primary: yaw to the left  
Secondary: roll to the left
- 19 What is the effect of pulling the control yoke or stick backwards? (1,00 P.)**
- The aircraft's tail will produce an increased downward force, causing the aircraft's nose to drop
  - The aircraft's tail will produce an increased upward force, causing the aircraft's nose to rise
  - The aircraft's tail will produce an increased downward force, causing the aircraft's nose to rise
  - The aircraft's tail will produce an decreased upward force, causing the aircraft's nose to drop
- 20 Which of the following options states all primary flight controls of an aircraft? (1,00 P.)**
- Elevator, rudder, aileron
  - Elevator, rudder, aileron, trim tabs, high-lift wing devices, power controls
  - Flaps, slats, speedbrakes
  - All movable parts on the aircraft which aid in controlling the aircraft
- 21 What is the purpose of the secondary flight controls? (1,00 P.)**
- To enable the pilot to control the aircraft's movements about its three axes
  - To constitute a backup system for the primary flight controls
  - To improve the performance characteristics of an aircraft and relieve the pilot of excessive control forces
  - To improve the turn characteristics of an aircraft in the low speed regime during approach and landing
- 22 Which levers in a glider's cockpit are indicated by the colors red, blue and green?**
- Levers for usage of ... (1,00 P.)**
- speed brakes, cable release and elevator trim.
  - cabin hood release, speed brakes, elevator trim.
  
  - gear, speed brakes and elevator trim tab.
  - speed brakes, cabin hood lock and gear.

**23 A glider's trim lever is used to... (1,00 P.)**

- reduce stick force on the ailerons.
- reduce stick force on the elevator.
- reduce the adverse yaw.
- reduce stick force on the rudder.

**24 The trim wheel or lever in the cockpit is moved aft by the pilot.**

**What effect does this action have on the trim tab and on the elevator? (1,00 P.)**

- The trim tab moves down, the elevator moves up
- The trim tab moves up, the elevator moves down
- The trim tab moves down, the elevator moves down
- The trim tab moves up, the elevator moves up

**25 When trimming an aircraft nose up, in which direction does the trim tab move? (1,00 P.)**

- Depends on CG position
- It moves down
- In direction of rudder deflection
- It moves up

**26 The trim is used to... (1,00 P.)**

- increase adverse yaw.
- adapt the control force.
- lock control elements.
- move the centre of gravity.

**27 The fuselage structure may be damaged by... (1,00 P.)**

- exceeding the manoeuvring speed in heavy gusts.
- neutralizing stick forces according to actual flight state.
- airspeed decreasing below a certain value.
- stall after exceeding the maximum angle of attack.

**28 What values are usually marked with a red line on instrument displays? (1,00 P.)**

- Operational areas
- Caution areas
- Operational limits
- Recommended areas

**29 Which of the mentioned cockpit instruments is connected to the pitot tube? (1,00 P.)**

- Altimeter
- Vertical speed indicator
- Direct-reading compass
- Airspeed indicator

**30 Which cockpit instruments are connected to the static port? (1,00 P.)**

- Airspeed indicator, direct-reading compass, slip indicator
- Airspeed indicator, altimeter, direct-reading compass
- Altimeter, slip indicator, navigational computer
- Altimeter, vertical speed indicator, airspeed indicator

**31 The term "static pressure" is defined as pressure... (1,00 P.)**

- sensed by the pitot tube.
- resulting from orderly flow of air particles.
- of undisturbed airflow.
- inside the airplane cabin.

**32 What does the dynamic pressure depend directly on? (1,00 P.)**

- Air pressure and air temperature
- Air density and lift coefficient
- Air density and airflow speed squared
- Lift- and drag coefficient

**33 The Pitot / static system is required to... (1,00 P.)**

- prevent potential static buildup on the aircraft.
- prevent icing of the Pitot tube.
- measure total and static air pressure.
- correct the reading of the airspeed indicator to zero when the aircraft is static on the ground.

**34 Which pressure is sensed by the Pitot tube? (1,00 P.)**

- Static air pressure
- Dynamic air pressure
- Total air pressure
- Cabin air pressure

**35 QFE is the... (1,00 P.)**

- barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).
- altitude above the reference pressure level 1013.25 hPa.
- magnetic bearing to a station.
- barometric pressure at a reference datum, typically the runway threshold of an airfield.

**36 QNE is the... (1,00 P.)**

- barometric pressure at a reference datum, typically the runway threshold of an airfield.
- magnetic bearing to a station.
- altitude above the reference pressure level 1013.25 hPa.
- barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).

**37 Which is the purpose of the altimeter subscale? (1,00 P.)**

- To set the reference level for the altitude decoder of the transponder
- To adjust the altimeter reading for non-standard temperature
- To reference the altimeter reading to a predetermined level such as mean sea level, aerodrome level or pressure level 1013.25 hPa
- To correct the altimeter reading for system errors

**38 In which way may an altimeter subscale which is set to an incorrect QNH lead to an incorrect altimeter reading? (1,00 P.)**

- If the subscale is set to a lower than actual pressure, the indication is too low.  
This may lead to much closer proximity to the ground than intended
- If the subscale is set to a lower than actual pressure, the indication is too high.  
This may lead to much closer proximity to the ground than intended
- If the subscale is set to a higher than actual pressure, the indication is too high.  
This may lead to much closer proximity to the ground than intended
- If the subscale is set to a higher than actual pressure, the indication is too low.  
This may lead to much greater heights above the ground than intended

**39 What difference in altitude is shown by an altimeter, if the reference pressure scale setting is changed from 1000 hPa to 1010 hPa? (1,00 P.)**

- Values depending on QNH
- 80 m more than before
- Zero
- 80 m less than before

**40 The altimeter's reference scale is set to airfield pressure (QFE).****What indication is shown during the flight? (1,00 P.)**

- Airfield elevation
- Pressure altitude
- Altitude above MSL
- Height above airfield

**41 Lower-than-standard temperature may lead to... (1,00 P.)**

- a correct altitude indication as long as the altimeter subscale is set to correct for non-standard temperature.
- an altitude indication which is too low.
- an altitude indication which is too high.
- a blockage of the Pitot tube by ice, freezing the altimeter indication to its present value.

**42 A flight level is a... (1,00 P.)**

- true altitude.
- density altitude.
- pressure altitude.
- altitude above ground.

**43 A true altitude is... (1,00 P.)**

- an altitude above mean sea level corrected for non-standard temperature.
- a pressure altitude corrected for non-standard temperature.
- a height above ground level corrected for non-standard pressure.
- a height above ground level corrected for non-standard temperature.

**44 During a flight in colder-than-ISA air the indicated altitude is... (1,00 P.)**

- lower than the true altitude.
- equal to the standard altitude.
- higher than the true altitude.
- equal to the true altitude.

**45 During a flight in an air mass with a temperature equal to ISA and the QNH set correctly, the indicated altitude is... (1,00 P.)**

- higher than the true altitude.
- equal to the true altitude.
- lower than the true altitude.
- equal to the standard atmosphere.

- 46 Which instrument can be affected by the hysteresis error? (1,00 P.)**
- Tachometer
  - Altimeter
  - Direct reading compass
  - Vertical speed indicator
- 47 The measurement of altitude is based on the change of the... (1,00 P.)**
- total pressure.
  - static pressure.
  - dynamic pressure.
  - differential pressure.
- 48 When is it necessary to adjust the pressure in the reference scale of an altimeter? (1,00 P.)**
- Once a month before flight operation
  - Every day before the first flight
  - Before every flight and during cross country flights
  - After maintenance has been finished
- 49 Which of the following options states the working principle of a vertical speed indicator? (1,00 P.)**
- Static air pressure is measured and compared against a vacuum
  - Measuring the present static air pressure and comparing it to the static air pressure inside a reservoir
  - Measuring the vertical acceleration through the displacement of a gimbal-mounted mass
  - Total air pressure is measured and compared to static pressure
- 50 The vertical speed indicator measures the difference of pressure between... (1,00 P.)**
- the present dynamic pressure and the static pressure of a previous moment.
  - the present dynamic pressure and the dynamic pressure of a previous moment.
  - the present static pressure and the static pressure of a previous moment.
  - the present total pressure and the total pressure of a previous moment.
- 51 A vertical speed indicator connected to a too big equalizing tank results in... (1,00 P.)**
- mechanical overload
  - no indication
  - indication too low
  - indication too high

**52 A vertical speed indicator measures the difference between... (1,00 P.)**

- total pressure and static pressure.
- instantaneous static pressure and previous static pressure.
- dynamic pressure and total pressure.
- instantaneous total pressure and previous total pressure.

**53 An energy-compensated vertical speed indicator (VSI) shows during stationary glide the vertical speed... (1,00 P.)**

- of the glider minus movement of the air.
- of the glider plus movement of the air.
- of the glider through surrounding air.
- of the airmass flown through.

**54 An aircraft cruises on a heading of 180° with a true airspeed of 100 kt. The wind comes from 180° with 30 kt.**

**Neglecting instrument and position errors, which will be the approximate reading of the airspeed indicator? (1,00 P.)**

- 30 kt
- 70 kt
- 130 kt
- 100 kt

**55 With decreasing air density the airflow speed increases at stall speed (TAS) and vice versa.**

**How has a final approach to be conducted on a hot summer day? (1,00 P.)**

- With decreased speed indication (IAS)
- With unchanged speed indication (IAS)
- With additional speed according POH
- With increased speed indication (IAS)

**56 Which of the following states the working principle of an airspeed indicator? (1,00 P.)**

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

**57 What is necessary for the determination of speed (IAS) by the airspeed indicator? (1,00 P.)**

- The difference between the standard pressure and the total pressure
- The difference between the total pressure and the static pressure
- The difference between the dynamic pressure and the static pressure
- The difference between the total pressure and the dynamic pressure

**58 The airspeed indicator is unservicable.**

**The airplane may only be operated... (1,00 P.)**

- when a GPS with speed indication is used during flight.
- if only airfield patterns are flown.
- when the airspeed indicator is fully functional again.
- if no maintenance organisation is around.

**59 What is the meaning of the red range on the airspeed indicator? (1,00 P.)**

- Speed which must not be exceeded within bumpy air
- Speed which must not be exceeded with flaps extended
- Speed which must not be exceeded regardless of circumstances
- Speed which must not be exceeded in turns with more than 45° bank

**60 The Caution Area is marked on an airspeed indicator by what color? (1,00 P.)**

- Yellow
- Green
- Red
- White

**61 The term "inclination" is defined as... (1,00 P.)**

- angle between airplane's longitudinal axis and true north.
- angle between earth's magnetic field lines and horizontal plane.
- deviation induced by electrical fields.
- angle between magnetic and true north.

**62 The compass error caused by the aircraft's magnetic field is called... (1,00 P.)**

- variation.
- deviation.
- inclination.
- declination.

**63 The indication of a magnetic compass deviates from magnetic north direction due to what errors? (1,00 P.)**

- Inclination and declination of the earth's magnetic field
- Gravity and magnetism
- Deviation, turning and acceleration errors
- Variation, turning and acceleration errors

**64 An aircraft in the northern hemisphere intends to turn on the shortest way from a heading of 270° to a heading of 360°.**

**At approximately which indication of the magnetic compass should the turn be terminated? (1,00 P.)**

- 270°
- 330°
- 360°
- 030°

**65 An aircraft in the northern hemisphere intends to turn on the shortest way from a heading of 360° to a heading of 270°.**

**At approximately which indication of the magnetic compass should the turn be terminated? (1,00 P.)**

- 240°
- 270°
- 300°
- 360°

**66 An aircraft in the northern hemisphere intends to turn on the shortest way from a heading of 030° to a heading of 180°.**

**At approximately which indicated magnetic heading should the turn be terminated? (1,00 P.)**

- 360°.
- 180°.
- 150°.
- 210°.

**67 What is a cause for the dip error on the direct-reading compass? (1,00 P.)**

- Deviation in the cockpit
- Acceleration of the airplane
- Temperature variations
- Inclination of earth's magnetic field lines

**68 During a right turn, the yaw string is drawn to the left from center position.**

**By what rudder input can the string be centered again? (1,00 P.)**

- Less bank, more rudder in turn direction
- Less bank, less rudder in turn direction
- More bank, more rudder in turn direction
- More bank, less rudder in turn direction

**69 During a left turn, the yaw string is drawn to the left from center position.**

**By what rudder input can the string be centered again? (1,00 P.)**

- Less bank, more rudder in turn direction
- Less bank, less rudder in turn direction
- More bank, more rudder in turn direction
- More bank, less rudder in turn direction

AIRCADEMY



## Part-FCL Question Bank

# SPL

*Acc. (EU) 1178/2011  
and  
AMC FCL.115, .120, 210, .215*

*(Excerpt)*

# 90 – Navigation



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**1 The rotational axis of the Earth runs through the... (1,00 P.)**

- geographic North Pole and on the magnetic south pole.
- magnetic north pole and on the geographic South Pole.
- magnetic north pole and on the magnetic south pole.
- geographic North Pole and on the geographic South Pole.

**2 Which statement is correct with regard to the polar axis of the Earth? (1,00 P.)**

- The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is perpendicular to the plane of the equator
- The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is at an angle of  $66.5^\circ$  to the plane of the equator
- The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is perpendicular to the plane of the equator
- The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is at an angle of  $23.5^\circ$  to the plane of the equator

**3 Which approximate, geometrical form describes the shape of the Earth best for navigation systems? (1,00 P.)**

- Ellipsoid
- Perfect sphere
- Flat plate
- Sphere of ecliptical shape

**4 Which statement about a rhumb line is correct? (1,00 P.)**

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

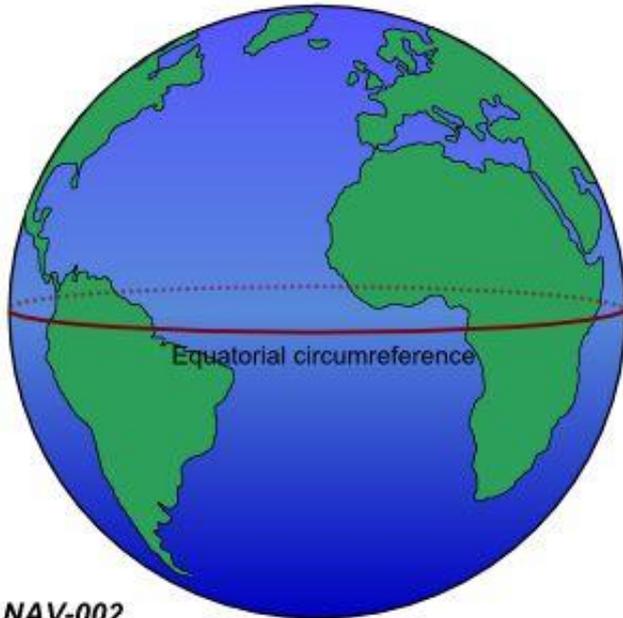
**5 The shortest distance between two points on Earth is represented by a part of... (1,00 P.)**

- a small circle.
- a rhumb line.
- a parallel of latitude.
- a great circle.

6 The circumference of the Earth at the equator is approximately...

See figure (NAV-002) (1,00 P.)

- 12800 km.
- 21600 NM.
- 40000 NM.
- 10800 km.



7 What is the difference in latitude between A ( $12^{\circ}53'30''\text{N}$ ) and B ( $07^{\circ}34'30''\text{S}$ )? (1,00 P.)

- $05^{\circ}19'00''$
- $05,19^{\circ}$
- $20^{\circ}28'00''$
- $20,28^{\circ}$

8 Where are the two polar circles? (1,00 P.)

- $23.5^{\circ}$  north and south of the equator
- $20.5^{\circ}$  south of the poles
- At a latitude of  $20.5^{\circ}\text{S}$  and  $20.5^{\circ}\text{N}$
- $23.5^{\circ}$  north and south of the poles

9 What is the distance between the parallels of latitude  $48^{\circ}\text{N}$  and  $49^{\circ}\text{N}$  along a meridian line? (1,00 P.)

- 110 NM
- 60 NM
- 60 km
- 111 NM

- 10 What distance corresponds to one degree difference in latitude along any degree of longitude? (1,00 P.)**
- 30 NM
  - 1 NM
  - 60 NM
  - 60 km
- 11 Point A on the Earth's surface lies exactly on the parallel of latitude of 47°50'27"N.**
- Which point is exactly 240 NM north of A? (1,00 P.)**
- 51°50'27"N
  - 43°50'27"N
  - 49°50'27"N
  - 53°50'27"N
- 12 What is the distance between the two parallels of longitude 150°E and 151°E along the equator? (1,00 P.)**
- 60 NM
  - 111 NM
  - 1 NM
  - 60 km
- 13 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? (1,00 P.)**
- 120 NM
  - 60 NM
  - 400 NM
  - 216 NM
- 14 Assume two arbitrary points A and B on the same parallel of latitude, but not on the equator. Point A is located on 010°E and point B on 020°E.**
- The rumb line distance between A and B is always... (1,00 P.)**
- more than 300 NM.
  - less than 300 NM.
  - less than 600 NM.
  - more than 600 NM.

**15 What is the difference in time when the sun moves 20° of longitude? (1,00 P.)**

- 0:20 h
- 1:20 h
- 1:00 h
- 0:40 h

**16 What is the difference in time when the sun moves 10° of longitude? (1,00 P.)**

- 0:04 h
- 0:40 h
- 1:00 h
- 0:30 h

**17 The sun moves 10° of longitude. What is the difference in time? (1,00 P.)**

- 0.66 h
- 0.4 h
- 1 h
- 0.33 h

**18 With Central European Summer Time (CEST) given as UTC+2, what UTC time corresponds to 1600 CEST? (1,00 P.)**

- 1400 UTC.
- 1700 UTC.
- 1600 UTC.
- 1500 UTC.

**19 UTC is... (1,00 P.)**

- a local time in Central Europe.
- local mean time at a specific point on Earth.
- a zonal time.
- an obligatory time used in aviation.

**20 With Central European Time (CET) given as UTC+1, what UTC time corresponds to 1700 CET? (1,00 P.)**

- 1500 UTC.
- 1700 UTC.
- 1800 UTC.
- 1600 UTC.

**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? (2,00 P.)**

- In Vienna the sunrise is 14 minutes earlier and sunset is 14 minutes later than in Salzburg
- In Vienna the sunrise is 4 minutes later and sunset is 4 minutes earlier than in Salzburg
- In Vienna the sunrise and sunset are about 14 minutes earlier than in Salzburg
- In Vienna the sunrise and sunset are about 4 minutes later than in Salzburg

**22 The term 'civil twilight' is defined as... (1,00 P.)**

- the period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the apparent horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the apparent horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the true horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the true horizon.

**23 Given:  
WCA: -012°; TH: 125°; MC: 139°; DEV: 002°E**

**What are: TC, MH und CH?  
(2,00 P.)**

- TC: 137°.  
MH: 127°.  
CH: 125°.
- TC: 137°.  
MH: 139°.  
CH: 125°.
- TC: 113°.  
MH: 139°.  
CH: 129°.
- TC: 113°.  
MH: 127°.  
CH: 129°.

- 24 Given:**  
**TC: 179°; WCA: -12°; VAR: 004° E; DEV: +002°**

**What are MH and MC?**  
**(1,00 P.)**

- MH: 167°.  
MC: 161°.
- MH: 163°.  
MC: 175°.
- MH: 163°.  
MC: 161°.
- MH: 167°.  
MC: 175°.

- 25 The angle between the true course and the true heading is called... (1,00 P.)**

- variation.
- WCA.
- deviation.
- inclination.

- 26 The angle between the magnetic course and the true course is called... (1,00 P.)**

- inclination.
- WCA.
- deviation.
- variation.

- 27 The term 'magnetic course' (MC) is defined as... (1,00 P.)**

- the angle between magnetic north and the course line.
- the direction from an arbitrary point on Earth to the geographic North Pole.
- the direction from an arbitrary point on Earth to the magnetic north pole.
- the angle between true north and the course line.

- 28 The term 'True Course' (TC) is defined as... (1,00 P.)**

- the angle between magnetic north and the course line.
- the angle between true north and the course line.
- the direction from an arbitrary point on Earth to the geographic North Pole.
- the direction from an arbitrary point on Earth to the magnetic north pole.

- 29 Given:**  
**TC: 183°; WCA: +011°; MH: 198°; CH: 200°**

**What are TH and VAR?**  
**(2,00 P.)**

- TH: 172°. VAR: 004° E
- TH: 172°. VAR: 004° W
- TH: 194°. VAR: 004° E
- TH: 194°. VAR: 004° W

- 30 Given:**  
**TC: 183°; WCA: +011°; MH: 198°; CH: 200°**

**What are the TH and the DEV?**  
**(2,00 P.)**

- TH: 194°. DEV: +002°.
- TH: 172°. DEV: +002°.
- TH: 194°. DEV: -002°.
- TH: 172°. DEV: -002°.

- 31 Given:**  
**TC: 183°; WCA: +011°; MH: 198°; CH: 200°**

**What are the VAR and the DEV?**  
**(2,00 P.)**

- VAR: 004° E. DEV: +002°.
- VAR: 004° E. DEV: -002°.
- VAR: 004° W. DEV: +002°.
- VAR: 004° W. DEV: -002°.

**32 Where does the inclination reach its lowest value? (1,00 P.)**

- At the geographic equator
- At the magnetic poles
- At the magnetic equator
- At the geographic poles

**33 The angle between compass north and magnetic north is called... (1,00 P.)**

- variation.
- WCA.
- deviation.
- inclination.

**34 Which direction corresponds to 'compass north' (CN)? (1,00 P.)**

- The direction from an arbitrary point on Earth to the geographical North Pole
- The angle between the aircraft heading and magnetic north
- The most northerly part of the magnetic compass in the aircraft, where the reading takes place
- The direction to which the direct reading compass aligns due to earth's and aircraft's magnetic fields

**35 The term 'isogonal' or 'isogonic line' is defined as a line on an aeronautical chart, connecting all points with the same value of... (1,00 P.)**

- inclination.
- variation.
- heading.
- deviation.

**36 The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the... (1,00 P.)**

- inclination of 0°.
- heading of 0°.
- variation of 0°.
- deviation of 0°.

**37 Which are the official basic units for horizontal distances used in aeronautical navigation and their abbreviations? (1,00 P.)**

- feet (ft), inches (in)
- Nautical miles (NM), kilometers (km)
- Land miles (SM), sea miles (NM)
- Yards (yd), meters (m)

**38 1000 ft equal... (1,00 P.)**

- 300 m.
- 3000 m.
- 30 km.
- 30 m.

**39 5500 m equal... (1,00 P.)**

- 10000 ft.
- 18000 ft.
- 7500 ft.
- 30000 ft.

**40 What could be a reason for changing the runway indicators at aerodromes (e.g. from runway 06 to runway 07)? (1,00 P.)**

- The magnetic deviation of the runway location has changed
- The magnetic variation of the runway location has changed
- The true direction of the runway alignment has changed
- The direction of the approach path has changed

**41 Electronic devices on board of an aeroplane have influence on the... (1,00 P.)**

- turn coordinator.
- artificial horizon.
- airspeed indicator.
- direct reading compass.

**42 Which are the properties of a Mercator chart? (1,00 P.)**

- The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines

**43 How are rhumb lines and great circles depicted on a direct Mercator chart? (1,00 P.)**

- Rhumb lines: curved lines  
Great circles: straight lines
- Rhumb lines: straight lines  
Great circles: straight lines
- Rhumb lines: straight lines  
Great circles: curved lines
- Rhumb lines: curved lines  
Great circles: curved lines

**44 Which are the properties of a Lambert conformal chart? (1,00 P.)**

- Rhumb lines are depicted as straight lines and the chart is conformal
- Great circles are depicted as straight lines and the chart is an equal-area projection
- The chart is conformal and nearly true to scale
- The chart is conformal and an equal-area projection

**45 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) (1,00 P.)**

**Siehe Anlage 1**

- 24 km
- 42 km
- 24 NM
- 42 NM

**46 The distance between two airports is 220 NM.  
On an aeronautical navigation chart the pilot measures 40.7 cm for this distance.**

**The chart scale is... (1,00 P.)**

- 1 : 250000.
- 1 : 500000.
- 1 : 1000000.
- 1 : 2000000.

- 47 A distance of 7.5 cm on an aeronautical chart represents a distance of 60.745 NM in reality.

What is the chart scale? (1,00 P.)

- 1 : 1 000000
- 1 : 500000
- 1 : 1500000
- 1 : 150000

- 48 What is the true course (TC) from Uelzen (EDVU) (52°59'N, 10°28'E) to Neustadt (EDAN) (53°22'N, 011°37'E)?

See annex (NAV-031) (1,00 P.)

Siehe Anlage 1

- 235°
- 241°
- 061°
- 055°

- 49 What is the distance from Neustadt (EDAN) (53°22'N, 011°37'E) to Uelzen (EDVU) (52°59'N, 10°28'E)?

See annex (NAV-031) (1,00 P.)

Siehe Anlage 1

- 46 km
- 78 km
- 46 NM
- 78 NM

- 50 For a short flight from A to B the pilot extracts the following information from an aeronautical chart:

True course: 245°.

Magnetic variation: 7° W

The magnetic course (MC) equals... (1,00 P.)

- 238°.
- 007°.
- 245°.
- 252°.

- 51 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... (2,00 P.)**

- 1052 UTC.
- 1115 UTC.
- 1105 UTC.
- 1005 UTC.

- 52 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... (1,00 P.)**

- 1430 UTC
- 1320 UTC
  
- 1356 UTC
- 1330 UTC

- 53 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...**

**(1,00 P.)**

- 1146 UTC.
- 1129 UTC.
- 1029 UTC.
- 1045 UTC.

**54 An aircraft travels 100 km in 56 minutes.**

**The ground speed (GS) equals...**

**(1,00 P.)**

- 107 km/h.
- 198 kt.
- 58 km/h.
- 93 kt.

**55 An aircraft travels 110 NM within 01:25.**

**The ground speed (GS) equals...**

**(1,00 P.)**

- 120 km/h.
- 86 kt.
- 160 km/h.
- 78 kt.

**56 What is the required flight time for a distance of 236 NM with a ground speed of 134 kt? (1,00 P.)**

- 0:46 h
- 1:46 h
- 1:34 h
- 0:34 h

**57 An aircraft is flying with a true airspeed (TAS) of 120 kt and experiences 35 kt tailwind.**

**How much time is needed for a distance of 185 NM?**

**(1,00 P.)**

- 0 h 50 min
- 1 h 12 min
- 1 h 32 min
- 2 h 11 min

- 58 An aircraft is flying with a true airspeed (TAS) of 180 kt and a headwind component of 25 kt for 2 hours and 25 minutes.**

**The distance flown equals... (1,00 P.)**

- 435 NM.
- 202 NM.
- 375 NM.
- 693 NM.

- 59 An aircraft is flying at aFL 75 with an outside air temperature (OAT) of -9°C. The QNH altitude is 6500 ft.**

**The true altitude equals... (1,00 P.)**

- 6250 ft.
- 6500 ft.
- 7000 ft.
- 6750 ft.

- 60 An aircraft is flying at a pressure altitude of 7000 feet with an outside air temperature (OAT) of +11°C. The QNH altitude is 6500 ft.**

**The true altitude equals... (1,00 P.)**

- 6250 ft.
- 7000 ft.
- 6750 ft.
- 6500 ft.

- 61 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... (1,00 P.)**

- 6500 ft.
- 7000 ft.
- 6750 ft.
- 6250 ft.

- 62 Given:**  
**True course: 255°.**  
**TAS: 100 kt.**  
**Wind: 200°/10 kt.**

**The true heading equals... (1,00 P.)**

- 250°.  
 245°.  
 265°.  
 275°.

- 63 Given:**  
**True course: 165°.**  
**TAS: 90 kt.**  
**Wind: 130°/20 kt.**  
**Distance: 153 NM.**

**The true heading equals... (1,00 P.)**

- 165°.  
 158°.  
 126°.  
 152°.

- 64 Given:**  
**Ground speed (GS): 160 kt.**  
**True course (TC): 177°.**  
**Wind vector (W/WS): 140°/20 kt.**

**The true heading (TH) equals...**

**(1,00 P.)**

- 169°.  
 184°.  
 173°.  
 180°.

- 65 An aircraft is following a true course (TC) of 220° at a constant TAS of 220 kt. The wind vector is 270°/50 kt.**

**The ground speed (GS) equals...**

**(1,00 P.)**

- 135 kt.
- 185 kt.
- 255 kt.
- 170 kt.

- 66 An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt.**

**The groundspeed (GS) equals...**

**(1,00 P.)**

- 172 kt.
- 159 kt.
- 168 kt.
- 155 kt.

- 67 An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt.**

**The wind correction angle (WCA) equals...**

**(1,00 P.)**

- 7°
- + 5°
- + 11°
- 9°

- 68 Given:**  
**True course: 270°.**  
**TAS: 100 kt.**  
**Wind: 090°/25 kt.**  
**Distance: 100 NM.**  
**The ground speed (GS) equals... (1,00 P.)**

- 117 kt.  
 120 kt.  
 131 kt.  
 125 kt.

- 69 Given:**  
**True course: 270°.**  
**TAS: 100 kt.**  
**Wind: 090°/25 kt.**  
**Distance: 100 NM.**

**The flight time equals... (1,00 P.)**

- 84 Min.  
 48 Min.  
 62 Min.  
 37 Min.

- 70 An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt.**

**The wind correction angle (WCA) equals...**

**(1,00 P.)**

- 7° right.  
 3° right.  
 7° left.  
 3° left.

- 71 Given:**  
**True course: 120°.**  
**TAS: 120 kt.**  
**Wind: 150°/12 kt.**

**The WCA equals... (1,00 P.)**

- 3° to the left.
- 6° to the left.
- 6° to the right.
- 3° to the right.

- 72 The distance from 'A' to 'B' measures 120 NM. At a distance of 55 NM from 'A' the pilot realizes a deviation of 7 NM to the right.**

**What approximate course change must be made to reach 'B' directly?**

**(1,00 P.)**

- 14° left
- 6° left
- 15° left
- 8° left

- 73 An aeroplane has a heading of 090°. The distance which has to be flown is 90 NM. After 45 NM the aeroplane is 4.5 NM north of the planned flight path.**

**What is the corrected heading to reach the arrival aerodrome directly? (1,00 P.)**

- 6° to the right
- 12° to the right
- 9° to the right
- 18° to the right

- 74 What is the meaning of the 1:60 rule?**

**(1,00 P.)**

- 6 NM lateral offset at 1° drift after 10 NM
- 60 NM lateral offset at 1° drift after 1 NM
- 10 NM lateral offset at 1° drift after 60 NM
- 1 NM lateral offset at 1° drift after 60 NM

**75 Which answer completes the flight plan (marked cells)?****See annex (NAV-014) (3,00 P.)****Siehe Anlage 2**

- TH: 173°.  
MH: 174°.  
MC: 178°.
- TH: 185°.  
MH: 185°.  
MC: 180°.
- TH: 185°.  
MH: 184°.  
MC: 178°.
- TH: 173°.  
MH: 184°.  
MC: 178°.

**76 How many satellites are necessary for a precise and verified three-dimensional determination of the position? (1,00 P.)**

- Two
- Three
- Four
- Five

**77 When using a GPS for tracking to the next waypoint, a deviation indication is shown by a vertical bar and dots to the left and to the right of the bar.****What statement describes the correct interpretation of the display? (1,00 P.)**

- The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection is +-10 NM.
- The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection is +-10°.
- The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection depends on the operating mode of the GPS.
- The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS.

## Anlage 1





## Anlage 2

P6	P7		P8	P9		P9	P10	P11
<b>NAV-014</b>	Wind W/V		rwk	L	rwSK	MW	mwSK	mwK
VE	Wind W/WS							
TAS	Richtung	Geschw.	TC	WCA	TH	VAR	MH	MC
75	320	15	247	+11	258	1	257	246
95	320	15	152	+2	154	1	153	151
95	320	15	139	0	139	1	138	138
95	320	15	161	+3	164	1	163	160
95	320	15	179	+6		1		