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Part-FCL Question Bank

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(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.)

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

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

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

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

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

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

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

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

- 12 months
- 12 years
- Unlimited
- 6 months

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

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

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

- in which the airworthiness review is done.
- in which the aircraft is constructed.
- of the residence of the owner.
- 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.
- all ICAO countries.
- the country where the license was acquired.

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

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

10 What is the period of validity of a private pilot license (PPL)? (1,00 P.)

- Unlimited
- 24 months
- 60 months
- 48 months

11 What is the minimum age to obtain a private pilot license? (1,00 P.)

- 18 years
- 16 years
- 17 years
- 21 years

- 12 What are the minimum requirements among others to acquire a rating for VFR night flights? (1,00 P.)**
- At least 5 additional flight hours at night, three of them with a flight instructor with at least 1 hour cross-country flight plus 5 solo take-offs and full-stop landings
 - At least 10 additional flight hours at night, three of them with a flight instructor with at least 1 hour cross-country flight plus 5 solo take-offs and full-stop landings
 - At least 5 additional flight hours at night, four of them with a flight instructor with at least 1 hour cross-country flight plus 5 solo take-offs and full-stop landings
 - At least 5 additional flight hours at night, three of them with a flight instructor with at least 1 hour cross-country flight plus 10 solo take-offs and full-stop landings
- 13 The validity of a medical examination certificate class 2 for a 62 years old pilot is... (1,00 P.)**
- 12 Months.
 - 48 Months.
 - 60 Months.
 - 24 Months.
- 14 In which way is a SEP (land) rating renewed if you do not meet the required flight time? (1,00 P.)**
- The required flight experience has to be accumulated under supervision of a flight instructor
 - The ATO can renew the rating after a training flight with a flight instructor
 - A proficiency check with an examiner
 - According to the flight experience there have to be several training flights under supervision of an ATO
- 15 The possession of a european PPL(A) entitles the holder to... (1,00 P.)**
- act as PIC on non-commercial flights without compensation as well as to receive compensation as a flight instructor.
 - act as pilot on a commercial flight when there are at most 4 people on board.
 - act as PIC, and only for flights in aircraft with a MTOW of maximum 2000 kg a compensation may be obtained.
 - act as pilot in commercial and non-commercial flights with single engine aircraft.
- 16 What is the minimum age to start a private pilot training at a flight school? (1,00 P.)**
- 17 years
 - 21 years
 - 16 years
 - 18 years

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

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

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

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

19 What has to be done before entering a TMZ? (1,00 P.)

- Switch on the transponder and activate mode A and C or mode S
- Request a clearance before entering
- File a flight plan before the flight
- Switch on the transponder, activate mode A, and squawk "IDENT"

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

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

21 According to ICAO Annex 2, the term "aerodrome traffic" is defined as: (1,00 P.)

- All traffic on the apron and on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.
- All traffic on the movement area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.
- All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome except aircraft in a visual circuit.
- All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.

22 What is the meaning of the abbreviation "IFR"? (1,00 P.)

- Commercial Flight Rules
- Instrument Flight Rules
- Instrument Meteorological Conditions
- Bad Weather Flight Rules

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

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

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

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

25 What is the meaning of the abbreviation "IMC"? (1,00 P.)

- Instrument conditions
- Instrument flight rules
- Instrument meteorological conditions
- Inter meteorological conditions

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

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

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

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

28 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
- Both have to divert to the right
- The aircraft which flies from left to right has the right of priority

29 In airspace "D" a Boeing 737 and a Cessna 152 are flying on crossing courses.

Which aeroplane has to divert? (1,00 P.)

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

30 Which of the following options is NOT a sufficient reason to fly below the required minimum height? (1,00 P.)

- An approach without landing at an aerodrome
- Take-off or landing at an aerodrome
- The drop of towed objects at an aerodrome
- Bad weather conditions in the vicinity of an aerodrome

31 A single-engine piston and a turboprop aeroplane are approaching each other opposite at the same altitude.

Which aeroplane has to change its track to avoid a collision? (1,00 P.)

- The single-engine piston aircraft has to give way to the turboprop aircraft
- Both aircraft have to alter their tracks to the right
- The turboprop aircraft has to give way to the single-engine piston aircraft
- Both aircraft have to alter their tracks to the left

32 What condition has to be met during a Special VFR flight? (1,00 P.)

- At least 500 m ground visibility
- A minimum distance to clouds of 2000 m
- Visual reference to the terrain
- Speed not above 115 kt IAS

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

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

34 The minimum flight visibility at 5000 ft MSL in airspace B for VFR flights is... (1,00 P.)

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

- 35 What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at 5000 ft MSL? (1,00 P.)**
- 8000 m
 - 5000 m
 - 3000 m
 - 1500 m
- 36 What is the minimum flight visibility in airspace "E" for an aircraft operating under VFR at FL75? (1,00 P.)**
- 8000 m
 - 5000 m
 - 1500 m
 - 3000 m
- 37 What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL110? (1,00 P.)**
- 3000 m
 - 5000 m
 - 8000 m
 - 1500 m
- 38 What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125? (1,00 P.)**
- 5000 m
 - 8000 m
 - 1500 m
 - 3000 m
- 39 What are the minimum distances to clouds for a VFR flight in airspace "B"? (1,00 P.)**
- Horizontally 1.000 m, vertically 1.500 ft
 - Horizontally 1.500 m, vertically 1.000 m
 - Horizontally 1.500 m, vertically 300 m
 - Horizontally 1.000 m, vertically 300 m

40 What is the minimum flight visibility in airspace "C" below FL 100 for an aircraft operating under VFR? (1,00 P.)

- 5 km
- 10 km
- 8 km
- 1.5 km

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

(1,00 P.)

- 10 km
- 1.5 km
- 5 km
- 8 km

42 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.

43 State the minimum weather conditions to enter a control zone (airspace "D") under special VFR conditions for a fixed-wing aircraft? (1,00 P.)

- Ground visibility at least 1,5 km
Flight visibility at least 1,5 km
Ceiling not below 1000 ft
Visual contact to the ground must be maintained
The aircraft must remain always clear of clouds.
- Ground visibility at least 5 km
Flight visibility at least 5 km
Ceiling not below 1500 ft
Visual contact to the ground must be maintained
The aircraft must remain always clear of clouds.
- Ground visibility at least 800 m
Flight visibility at least 800 m
Ceiling not below 600 ft
Visual contact to the ground must be maintained
The aircraft must remain always clear of clouds.
- Ground visibility at least 1,5 km
Flight visibility at least 1,5 km
Ceiling not below 600 ft
Visual contact to the ground must be maintained
The aircraft must remain always clear of clouds.

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

Alternating movement of the ailerons, normally left of the intercepted aircraft, followed by a smooth turn to the left? (1,00 P.)

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

45 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.)

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

- 46 The altimeter is switched from local QNH to 1013.25 hPa... (1,00 P.)**
- at 4000 ft.
 - when climbing above the transition altitude.
 - when descending below FL 100.
 - at the decision height.
- 47 During a flight at FL 80, the altimeter setting has to be... (1,00 P.)**
- local QNH.
 - 1013.25 hPa.
 - 1030.25 hPa.
 - local QFE.
- 48 What is the purpose of the semi-circular rule? (1,00 P.)**
- To avoid collisions by suspending turning manoeuvres
 - To fly without a filed flight plan in prescribed zones published in the AIP
 - To avoid collisions by reducing the probability of opposing traffic at the same altitude
 - To allow safe climbing or descending in a holding pattern
- 49 Which of the following options are possible SSR-Transponder modes? (1,00 P.)**
- B, R, S
 - A, C, R
 - A, C, S
 - B, C, V
- 50 A transponder with the ability to send the current pressure level is a... (1,00 P.)**
- transponder approved for airspace "B".
 - mode A transponder.
 - pressure-decoder.
 - mode C or S transponder.
- 51 Which transponder code indicates a loss of radio communication? (1,00 P.)**
- 7600
 - 7000
 - 2000
 - 7700

- 52 Which transponder code should be set during a radio failure without any request? (1,00 P.)**
- 7500
 - 7700
 - 7000
 - 7600
- 53 Which transponder code has to be set unrequested during an emergency? (1,00 P.)**
- 7700
 - 7600
 - 7000
 - 7500
- 54 The "IDENT" button on the transponder has to be used... (1,00 P.)**
- without any request before entering a CTA.
 - only once after a direct request by the ATC.
 - three times to indicate a radio failure.
 - without any request before entering airspace C, D or E.
- 55 Which air traffic service is responsible for the safe conduct of flights? (1,00 P.)**
- AIS (aeronautical information service)
 - FIS (flight information service)
 - ATC (air traffic control)
 - ALR (alerting service)
- 56 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)

57 Which answer is correct with regard to separation in airspace "E"? (1,00 P.)

- 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
- VFR traffic is separated only from IFR traffic

58 Which air traffic services can be expected within an FIR (flight information region)? (1,00 P.)

- FIS (flight information service)
ALR (alerting service)
- AIS (aeronautical information service)
SAR (search and rescue)
- ATC (air traffic control)
FIS (flight information service)
- ATC (air traffic control)
AIS (aeronautical information service)

59 A pilot can contact FIS (flight information service)... (1,00 P.)

- via radio communication.
- by a personal visit.
- via internet.
- via telephone.

60 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.)

- Attention propwash
- Be careful wake winds
- Caution wake turbulence
- Danger jet blast

61 Which of the following options states a correct position report? (1,00 P.)

- DEABC reaching "N"
- DEABC over "N" at 35
- DEABC over "N" in FL 2500 ft
- DEABC, "N", 2500 ft

62 What is the meaning of the abbreviation "AIREP"? (1,00 P.)

- Automatic identification report
- Aeronautical instrument requirement report
- Aeronautical information report
- Aircraft report

63 What information is provided in the general part (GEN) of the AIP? (1,00 P.)

- 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
- 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

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

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

65 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.
- Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees
- Table of content, classification of airfields with corresponding maps, approach charts, taxi charts
- Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods

66 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.

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

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

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

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

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

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

70 Which statement is correct with regard to the term "taxi holding point"? (1,00 P.)

- A taxi holding point is designed to indicate the beginning of the safety area and may be crossed when a taxi clearance is given
- A taxi holding point is an area where the aircraft must stop unless further permission to proceed is given
- A taxi holding point is only to be observed for IFR traffic if instrument weather conditions are prevailing
- A taxi holding point is the point at which the aircraft must stop unless further permission to proceed is given

71 What does the reported runway condition "WET" mean? (1,00 P.)

- Some water patches are visible
- The runway is clear of water, ice, and snow
- A large part of the surface is flooded
- The surface of the runway is soaked, but there are no significant patches of standing water

72 What does the reported runway condition "DAMP" mean? (1,00 P.)

- Wet surface, but no significant puddles are visible
- Change of colour on the surface due to moisture
- The runway is clear of water, ice, and snow
- A large part of the surface is flooded

- 73 What does "WATER PATCHES" mean regarding the reported runway condition? (1,00 P.)**
- The runway is clear of water, ice, and snow
 - Patches of standing water are visible
 - A large part of the surface is flooded
 - Wet surface, but no significant patches are visible
- 74 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 could be surrounded by a white circle.
 - The wind direction indicator could be located on a big black surface.
 - The wind direction indicator may be mounted on top of the control tower.
- 75 What is the meaning of a flashing red light signal at a controlled aerodrome directed to an aircraft in flight? (1,00 P.)**
- Give way to other aircraft and continue circling
 - Airport unsafe, do not land
 - Return for landing, followed by steady green at the appropriate time
 - Cleared to land
- 76 What is the meaning of a flashing green light signal at a controlled aerodrome directed to an aircraft in flight? (1,00 P.)**
- Give way to other aircraft and continue circling
 - Return for landing, followed by steady green at the appropriate time
 - Airport unsafe, do not land
 - Cleared to land
- 77 What is the meaning of a steady green light signal at a controlled aerodrome directed to an aircraft in flight? (1,00 P.)**
- Airport unsafe, do not land
 - Cleared to land
 - Return for landing, followed by steady green at the appropriate time
 - Give way to other aircraft and continue circling
- 78 What is the meaning of a flashing white light signal at a controlled aerodrome directed to an aircraft on ground? (1,00 P.)**
- Cleared to taxi
 - Return to starting point
 - Clear the taxiway / runway
 - Cleared for take-off

- 79 What is the meaning of a flashing red light signal at a controlled aerodrome directed to an aircraft on ground? (1,00 P.)**
- Cleared to taxi
 - Return to starting point
 - Immediately taxi clear of runway in use
 - Cleared for take-off
- 80 What is the meaning of a flashing green light signal at a controlled aerodrome directed to an aircraft on ground? (1,00 P.)**
- Return to starting point
 - Cleared for take-off
 - Cleared to taxi
 - Land at this airport and proceed to the apron
- 81 Of what shape is a landing direction indicator? (1,00 P.)**
- A straight arrow
 - T
 - L
 - An angled arrow
- 82 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 is a specially marked area to pick up or drop towing objects
 - It is an illuminated area on which search and rescue and fire fighting vehicles are placed
 - It contains special symbols to indicate the conditions at the aerodrome visually to over-flying aircraft
- 83 In which way should a pilot confirm received light signals in flight? (1,00 P.)**
- Apply some fast pitch changes
 - Rock the wings (in the daytime)
 - Apply some changes of RPM
 - Apply some changes of the rudder
- 84 What is the meaning of a steady red light signal at a controlled aerodrome directed to an aircraft on ground? (1,00 P.)**
- Clear the taxiway / runway
 - Land at this airport and proceed to apron
 - Stop
 - Return to starting point

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

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

86 According to ICAO Annex 14, which is the colour marking of a runway? (1,00 P.)

- White
- Blue
- Yellow
- Green

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

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

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

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

89 What is a "PAPI" (Precision Approach Path Indicator)? (1,00 P.)

- A visual aid that provides guidance information to help a pilot acquire and maintain the correct glidepath to an aerodrome or an airport
- An instrumental aid that provides guidance information to help a pilot acquire and maintain the correct approach to an aerodrome or an airport
- A visual aid that provides guidance information to help a pilot acquire and maintain the correct departure track when departing from an aerodrome or an airport
- A visual aid that provides guidance information to help a tower controller acquire and maintain the correct approach to an aerodrome or an airport

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

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

91 Which is the colour of runway edge lights? (1,00 P.)

- Blue
- Green
- Red
- White

92 Which is the colour of runway end lights? (1,00 P.)

- Blue
- White
- Red
- Green

93 What is shown on the printed sign?

See figure (ALW-019) (1,00 P.)

- Taxiway A
- Parking position A
- Part A of the runway
- Point A on a taxiway



ALW-019

94 What is shown on the printed sign?

See figure (ALW-020)
(1,00 P.)

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



95 Which meaning has a yellow cross on red ground signal as shown in the signal area of an aerodrome?

See figure (ALW-010)

(1,00 P.)

- Caution, manoeuvring area is poor.
- Ground movement restricted to hard surfaces.
- After take-off and before landing all turns have to be made to the right.
- Prohibition on landing for a longer period.

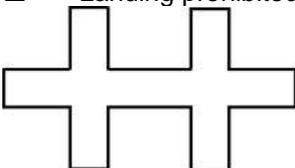


ALW-010

96 What is the meaning of this sign at an aerodrome?

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

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

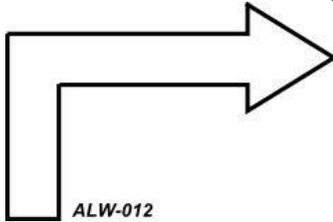


ALW-011

97 What is the meaning of the illustrated ground signal as shown in the signal area of an aerodrome?

See figure (ALW-012) (1,00 P.)

- Prohibition on landing for a longer period
- Ground movement restricted to hard surfaces
- After take-off and before landing all turns have to be made to the right
- Caution, manoeuvring area is poor



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

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

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

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

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

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

101 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
Crash
Disaster
- Event
Serious event
Accident

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

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

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Part-FCL Question Bank

PPL(A)

Acc. (EU) 1178/2011

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

(Excerpt)

20 – Human Performance and Limitations



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

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

2 The "E" in the SHELL model means...**See figure (HPL- 001) (1,00 P.)**

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

**HPL-001****3 The "L" in the SHELL model means...****See figure (HPL- 001) (1,00 P.)**

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



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

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

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

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

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

- 18.9 %
- 12 %
- 21 %
- 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.)

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

9 Air consists of oxygen, nitrogen and other gases.

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

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

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

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

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

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

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

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

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

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

- 14 Which of the following is NOT a symptom of hyperventilation? (1,00 P.)**
- Cyanose
 - Spasm
 - Disturbance of consciousness
 - Tingling
- 15 Which of the following symptoms may indicate hypoxia? (1,00 P.)**
- Blue marks all over the body
 - Muscle cramps in the upper body area
 - Joint pain in knees and feet
 - Blue discolouration of lips and fingernails
- 16 Which of the human senses is most influenced by hypoxia? (1,00 P.)**
- The olfactory perception (smell)
 - The visual perception (vision)
 - The auditory perception (hearing)
 - The tactile perception (sense of touch)
- 17 From which altitude on does the body usually react to the decreasing atmospheric pressure? (1,00 P.)**
- 10000 feet
 - 12000 feet
 - 7000 feet
 - 2000 feet
- 18 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
- 19 What is the function of the red blood cells (erythrocytes)? (1,00 P.)**
- Blood coagulation
 - Blood sugar regulation
 - Oxygen transport
 - Immune defense

20 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)

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

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

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

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

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

- Diving
- Blood donation
- Menstruation
- Smoking

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

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

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

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

- 26 What is an appropriate reaction when a passenger during cruise flight suddenly feels uncomfortable? (1,00 P.)**
- Avoid conversation and choose a higher airspeed
 - Switch on the heater blower and provide thermal blankets
 - Adjust cabin temperature and prevent excessive bank
 - Give additional oxygen and avoid low load factors
- 27 What is the correct term for an involuntary and stereotypical reaction of an organism to the stimulation of a receptor? (1,00 P.)**
- Reduction
 - Reflex
 - Coherence
 - Virulence
- 28 What is the correct term for the system which, among others, controls breathing, digestion, and heart frequency? (1,00 P.)**
- Critical nervous system
 - Compliant nervous system
 - Automatical nervous system
 - Autonomic nervous system
- 29 From about which altitude on does the night vision capability start to reduce? (1,00 P.)**
- 10000 ft
 - 3000 ft
 - 5000 ft
 - 7000 ft
- 30 What is the parallax error? (1,00 P.)**
- Misperception of speed during taxiing
 - Long-sightedness due to aging especially during night
 - Wrong interpretation of instruments caused by the angle of vision
 - A decoding error in communication between pilots
- 31 Which characteristic is important when choosing sunglasses used by pilots? (1,00 P.)**
- No UV filter
 - Non-polarised
 - Unbreakable
 - Curved sidepiece

- 32 What time is required approximately for the eyes to adapt to brightness? (1,00 P.)**
- 1 minute
 - 10 minutes
 - 10 seconds
 - 1 second
- 33 Which part of the visual system is responsible for colour vision? (1,00 P.)**
- Blind spot
 - Macula
 - Cones
 - Rods
- 34 The connection between middle ear and nose and throat region is called... (1,00 P.)**
- eardrum.
 - cochlea.
 - eustachian tube.
 - inner ear.
- 35 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
 - Breathing takes place using the mouth only
 - All windows are completely closed
 - During a light and slow climb
- 36 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.
 - starting a descent.
 - steady turning in the same direction as before.
- 37 Which of the following options does NOT stimulate motion sickness (disorientation)? (1,00 P.)**
- Head movements during turns
 - Non-accelerated straight and level flight
 - Turbulence in level flight
 - Flying under the influence of alcohol

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

48 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
- Generally both types of medication have to be handled in the same way
- Medication which is available over the counter is safe as long as a doctor has not expressed an opinion to the contrary
- Medication which is only available on prescription is considered to have an impact on flight performance only if explicitly noted on the package insert

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

- Smoking
- Sleep deficiency
- Alcohol consumption
- Overweight

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

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

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

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

52 Smoking causes... (1,00 P.)

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

53 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
- The interaction between perception and experience is limited to optical illusions
- Experience has a significant influence to our perception
- The interaction has no relevance for flight safety

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Macho
- Impulsivity
- Synergetic
- Infallibility

62 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

63 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 check flights due to a high level of nervousness
- During flight planning when excellent weather is forecast

64 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

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

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

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

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

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

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

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

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

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

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

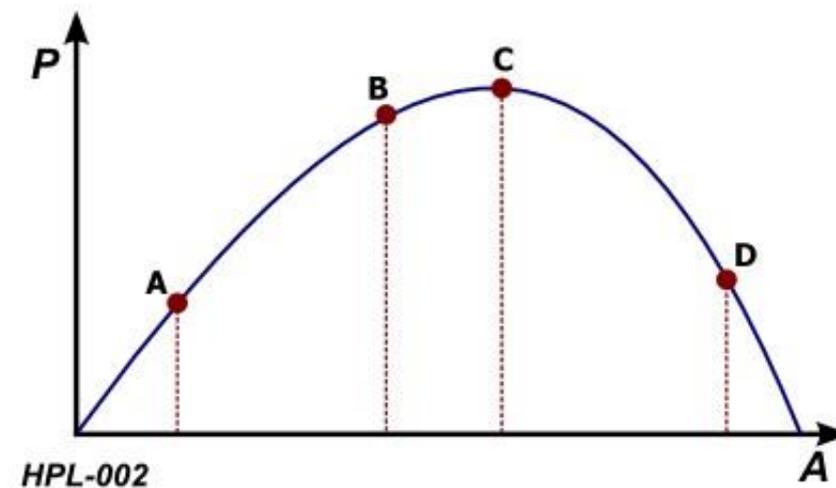
70 The ideal level of arousal is at which point in the diagram?

See figure (HPL- 002)

P = Performance

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

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



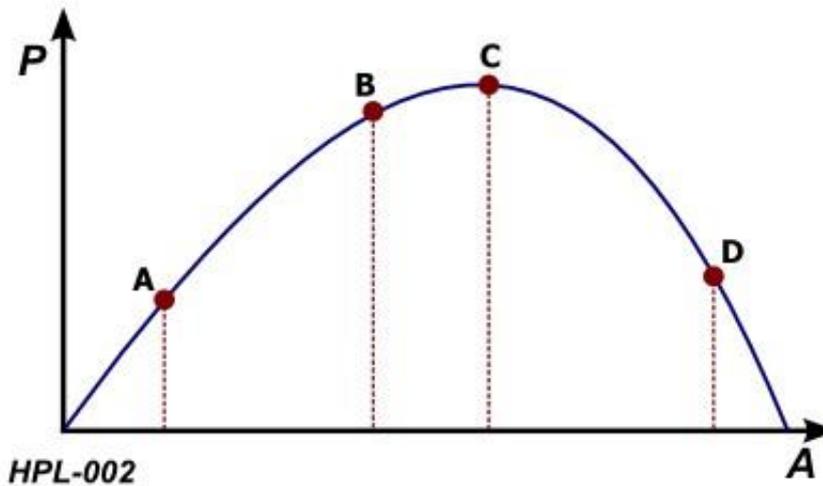
71 At which point in the diagram will a pilot find himself to be overstrained?

See figure (HPL-002)

P = Performance

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

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



72 Which of the following qualities are influenced by stress?

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

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

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

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

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

- Sports
 Unhealthy food
 Fatigue
 Relaxation training

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Part-FCL Question Bank

PPL(A)

*Acc. (EU) 1178/2011
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(Excerpt)

30 – Meteorology



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

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

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

- Stratosphere
- Thermosphere
- Tropopause
- Troposphere

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

- 0,1225 kg
- 12,25 kg
- 1,225 kg
- 0,01225 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 / 1000 ft
- Decreases by 2° C / 100 m
- Increases by 2° C / 1000 ft

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

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

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

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

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

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

8 What is meant by "inversion 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

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

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

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

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

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

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

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

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

- 250 hPa
- 300 hPa
- 1013.25 hPa
- 500 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.)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.)

- 7900 ft
- 9400 ft
- 7300 ft
- 7600 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 annotations from the text part of the chart
- By alignment of lines of warm- and cold fronts.
- By alignment and distance of isobaric lines

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

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

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

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

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

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

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

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

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

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 dissipation
- Descending air and cloud formation

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.
- when entering inversions.
- below stratiform clouds in medium layers.

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

- 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.
- with the appearance of extended low stratus clouds (high fog).

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

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

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

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

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

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

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

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

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

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

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

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

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

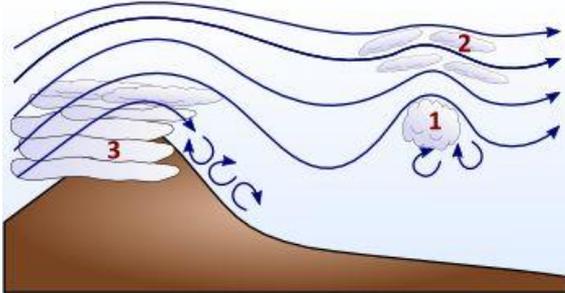
53 Clouds in high layers are referred to as... (1,00 P.)

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

- 54 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
- Nimbostratus
- Altocumulus Castellanus
- Cumulonimbus



MET-001

- 55 What cloud type does the picture show?

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

- Stratus
- Cumulus
- Altus
- Cirrus



MET-002

56 What cloud type does the picture show?**See figure (MET-004). (1,00 P.)**

- Cumulus
- Altocumulus
- Cirrus
- Stratus

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

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

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

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

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

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

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

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

61 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.)

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

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

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

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

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

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

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

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

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

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

- Altocumulus
- Cumulonimbus
- Cirrostratus
- Nimbostratus

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

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

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

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

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

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

70 The front shown in the picture is a / an...

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

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



71 The front shown in the picture is a / an...

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

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



72 The front shown in the picture is a / an...

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

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



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

- 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
- Squall line with showers of rain and thunderstorms (Cb), gusting wind followed by cumulus clouds with isolated showers of rain

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

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

75 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 to good visibility, scattered clouds
- Good visibility, some isolated high clouds
- Moderate visibility, heavy showers and thunderstorms

- 76 What visual flight conditions can be expected after the passage of a cold front? (1,00 P.)**
- Poor visibility, formation of overcast or ground-covering stratus clouds, snow
 - 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
 - Medium visibility with lowering cloud bases, onset of prolonged precipitation
- 77 An occlusion line is formed by succeeding... (1,00 P.)**
- cold air and preceding cold air.
 - warm air and preceding cold air.
 - warm air and preceding warm air.
 - cold air and preceding warm air.
- 78 A boundary between a cold polar air mass and a warm subtropical air mass showing no horizontal displacement is called... (1,00 P.)**
- warm front.
 - stationary front.
 - occluded front.
 - cold front.
- 79 What is the usual direction of movement of a polar front low? (1,00 P.)**
- To the northeast during winter, to the southeast during summer
 - Parallel to the warm front line to the south
 - Parallel to the the warm-sector isobars
 - To the northwest during winter, to the southwest during summer
- 80 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
 - Rising pressure in front of the warm front, rising pressure within the warm sector, falling 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, constant pressure within the warm sector, rising pressure behind the cold front

- 81 What pressure pattern can be observed when a cold front is passing? (1,00 P.)**
- Continually decreasing pressure
 - Shortly decreasing, thereafter increasing pressure
 - Constant pressure pattern
 - Continually increasing pressure
- 82 What change of wind direction can be expected during the passage of a polar front low in Central Europe? (1,00 P.)**
- Backing wind during passage of the warm front, backing wind during passage of the cold front
 - Veering 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
 - Backing wind during passage of the warm front, veering wind during passage of the cold front
- 83 Extensive high pressure areas can be found throughout the year ... (1,00 P.)**
- over oceanic areas at latitudes around 30°N/S.
 - in mid latitudes along the polar front
 - in tropical areas, close to the equator.
 - in areas showing extensive lifting processes.
- 84 What cloud type can typically be observed across widespread high pressure areas during summer? (1,00 P.)**
- Squall lines and thunderstorms
 - Scattered Cu clouds
 - Overcast Ns clouds
 - Overcast low stratus
- 85 What pressure pattern may result from cold-air inflow in high tropospheric layers? (1,00 P.)**
- Formation of a large ground low
 - Formation of a high in the upper troposphere
 - Formation of a low in the upper troposphere
 - Alternating pressure
- 86 Cold air inflow in high tropospheric layers may result in... (1,00 P.)**
- showers and thunderstorms.
 - stabilisation and calm weather.
 - frontal weather.
 - calm weather and cloud dissipation.

- 87 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)
 - Increase in vertical distance, lowering in height (low pressure)
 - Decreasing vertical distance, raise in height (high pressure)
 - Increasing vertical distance, raise in height (high pressure)
- 88 What weather phenomena have to be expected around an upper-level trough? (1,00 P.)**
- Calm weather, formation of lifted fog layers
 - Development of showers and thunderstorms (Cb)
 - Formation of high stratus clouds, ground-covering cloud bases
 - Calm wind, forming of shallow cumulus clouds
- 89 What frontal line divides subtropical air from polar cold air, in particular across Central Europe? (1,00 P.)**
- Occlusion
 - Warm front
 - Cold front
 - Polar front
- 90 What weather conditions can be expected in high pressure areas during summer? (1,00 P.)**
- Changing weather with passing of frontal lines
 - Calm weather and cloud dissipation, few high Cu
 - Squall lines and thunderstorms
 - Calm winds and widespread areas with high fog
- 91 What weather conditions in Central Europe are typically found in high pressure areas during summer? (1,00 P.)**
- Small isobar spacing with strong prevailing northerly winds
 - Large isobar spacing with strong prevailing westerly winds
 - Large isobar spacing with calm winds, formation of local wind systems
 - Small isobar spacing with calm winds, formation of local wind systems
- 92 What weather conditions can be expected in high pressure areas during winter? (1,00 P.)**
- Squall lines and thunderstorms
 - Changing weather with passing of frontal lines
 - Calm weather and cloud dissipation, few high Cu
 - Calm winds and widespread areas with high fog

- 93 What wind conditions can be expected in areas showing large distances between isobars? (1,00 P.)**
- Variable winds, formation of local wind systems
 - Strong prevailing easterly winds with rapid backing
 - Formation of local wind systems with strong prevailing westerly winds
 - Strong prevailing westerly winds with rapid veering
- 94 What weather conditions can be expected during "Foehn" on the windward side of a mountain range? (1,00 P.)**
- Dissipating clouds with unusual warming, accompanied by strong, gusty winds
 - Scattered cumulus clouds with showers and thunderstorms
 - Layered clouds, mountains obscured, poor visibility, moderate or heavy rain
 - Calm wind and forming of high stratus clouds (high fog)
- 95 Which of the stated wind phenomena will increase in speed since its path is narrowed by mountains? (1,00 P.)**
- Bora
 - Mistral
 - Passat
 - Scirocco
- 96 What is the name of the the cold, katabatic wind phenomena blowing from northeast into the Adriatic Sea? (1,00 P.)**
- Passat
 - Mistral
 - Bora
 - Scirocco
- 97 Which of the following conditions are most favourable for ice accretion? (1,00 P.)**
- Temperatures below 0° C, strong wind, sky clear of clouds
 - Temperatures between +10° C and -30° C, presence of hail (clouds)
 - 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)
- 98 What temperatures are most dangerous with respect to airframe icing? (1,00 P.)**
- +5° to -10° C
 - +20° to -5° C
 - 0° to -12° C
 - 20° to -40° C

99 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
- Hoar frost
- Mixed ice
- Clear ice

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

109 What has to be considered when taking off in a ground inversion? (1,00 P.)

- During the climb, a sudden increase in speed and climb performance has to be expected
- During climb, a sudden decrease in speed and climb performance has to be expected
- Due to low temperatures close to the ground, icing has to be expected
- Climb should be performed with the lowest possible speed and maximum power

110 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.)

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

- 111 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°
 - Heavy downdrafts within rainfall areas below thunderstorm clouds
 - Reduced visibility, maybe loss of sight to the airfield during final approach
 - Formation of medium to heavy clear ice on all aircraft surfaces
- 112 What kind of reduction in visibility is not very sensitive to changes in temperature? (1,00 P.)**
- Mist (BR)
 - Patches of fog (BCFG)
 - Haze (HZ)
 - Radiation fog (FG)
- 113 Information about pressure patterns and frontal situation can be found in which chart? (1,00 P.)**
- hypsometric chart.
 - Significant Weather Chart (SWC).
 - surface weather chart.
 - wind chart.
- 114 Which weather chart shows the actual air pressure as in MSL along with pressure centers and fronts? (1,00 P.)**
- Hypsometric chart
 - Surface weather chart
 - Prognostic chart
 - Wind chart
- 115 What observational technique allows the collection of temperature and dewpoint data throughout the troposphere? (1,00 P.)**
- Pressure soundings
 - Satellite images
 - Release of weather balloons
 - Weather radar images
- 116 What information can be obtained from satellite images? (1,00 P.)**
- Turbulence and icing
 - Overview of cloud covers and front lines
 - Flight visibility, ground visibility, and ground contact
 - Temperature and dew point of environmental air

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

- Satellite picture
- GAFOR
- Wind chart
- Radar picture

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

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

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

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

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

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

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

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

122 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
- Operational information such as runway in use and transition level
- Approach information, such as ground visibility and cloud base
- Information about mean wind speeds, maximum speeds in gusts if applicable

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

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

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

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

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Part-FCL Question Bank

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(Excerpt)

40 – Communication



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

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

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 pilot has flown into cloud or fog unintentionally and therefore would like to request navigational assistance from a ground unit
- 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 transmission containing important navigational or technical information is to be sent to several stations at the same time

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

- ABM
- ABB
- ABE
- ABA

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

- VRU
- VFR
- VMC
- VFS

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

- OBTC
- OBST
- OBS
- OST

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

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

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

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

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

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

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 mean sea level
- Altitude in relation to the 1013.25 hPa datum
- Altitude in relation to the air pressure at the reference airfield
- 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 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

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

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

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

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

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

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

- QUJ
- QDM
- QTE
- QDR

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

- QDM
- QDR
- QUJ
- QTE

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

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

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

- Flight regularity message
- Meteorological 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.)

- concerning the operation or maintenance of facilities essential for the safety or regularity of aircraft operation.
- 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.
- sent by an aircraft operating agency or an aircraft of immediate concern to an aircraft in flight.

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

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

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

- Home Bravo Yuliett Kilo Mike
- Home Bravo Yankee Kilo Mikro
- Hotel Bravo Yankee Kilo Mike
- 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
- Omega Echo Juliett Victor Kilogramm
- Oscar Echo Juliett Victor Kilo

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

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

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

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

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.)

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

32 After a transmission the other station does not answer.

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

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

33 What is the meaning of the phrase "Roger"?
(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

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

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

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

- Permission for proposed action is granted
- 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

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

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

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

- Would like
- Request
- Apply
- Want

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

- Roger
- Affirm
- Affirmative
- Yes

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

- Negative
- No
- Finish
- 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.)

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

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

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

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

- Ground
- Control
- Tower
- Airfield

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

- Earth
- Tower
- Ground
- Control

- 44 What is the call sign of the flight information service? (1,00 P.)**
- Flight information
 - Info
 - Advice
 - Information
- 45 What is the correct abbreviation of the call sign D-EAZF? (1,00 P.)**
- AZF
 - DEA
 - DEF
 - 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
 - After passing the first reporting point
 - If there is little traffic in the traffic circuit
- 47 What is the correct way of using the aircraft call sign at first contact? (1,00 P.)**
- Using the last two characters only
 - Using the first three characters only
 - Using the first two characters only
 - Using all characters
- 48 Leaving a control frequency (except when reaching the final parking position)... (1,00 P.)**
- must be approved.
 - must be reported.
 - must be approved twice.
 - is not mandatory to be reported.
- 49 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
 - Dusseldorf Tower D-EAZF
 - DEAZF is calling Dusseldorf Tower

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

(1,00 P.)

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

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

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

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

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

53 What does a readability of 3 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

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

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

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

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

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

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

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

- Heading
- Traffic information
- Altimeter setting
- Taxi instructions

58 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, then turn right heading 220, 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, 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, 090 degrees, 5 knots

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

- Roger
- Report PAH
- Wilco
- Positive

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

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

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

- Airspace Delta
- Wilco
- Entering
- Roger

- 62 What does a cloud coverage of "FEW" mean in a METAR weather report? (1,00 P.)**
- 8 eighths
 - 1 to 2 eighths
 - 3 to 4 eighths

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

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

- Navigational information
- NOTAMS
- Current information
- Meteorological information

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

- VOR
- NDB
- GPS
- DME

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

- AIRMET
- METAR
- GAMET
- VOLMET

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

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

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

- 7700
- 7000
- 7600
- 7500

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

- No reception
- Listen
- Transmitting blind
- Blind

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

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

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

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

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

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

77 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 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 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

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

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

79 Distress messages contain... (1,00 P.)

- information 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.
- information concerning urgent spare parts which are required for a continuation of flight and which have to be ordered in advance.
- information concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.

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

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

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

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

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

- Urgent
- Mayday
- Help
- Pan Pan

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

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

84 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, information about position, departure aerodrome, 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

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

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

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

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

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

- LF
- VHF
- HF
- MF

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

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

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

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

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(Excerpt)

51 – Principles of Flight (Aeroplane)



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

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

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

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

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

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

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

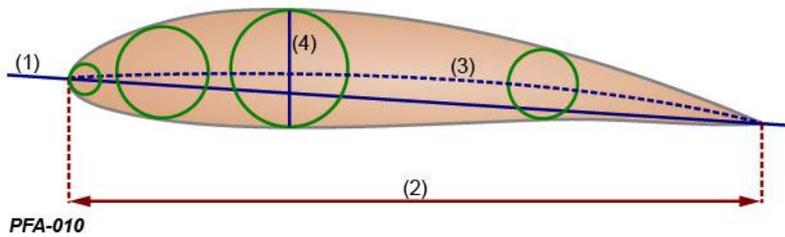
- lift point.

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

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

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

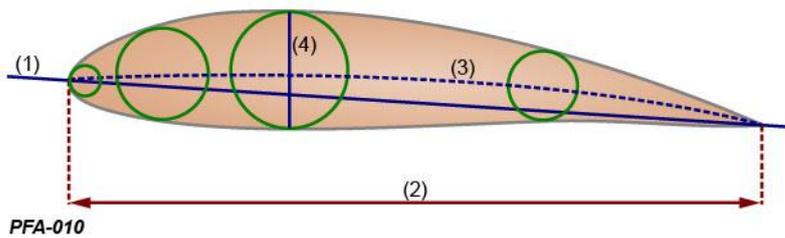
- chord line.
- profile thickness.
- chord.
- angle of attack.



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

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

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



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

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

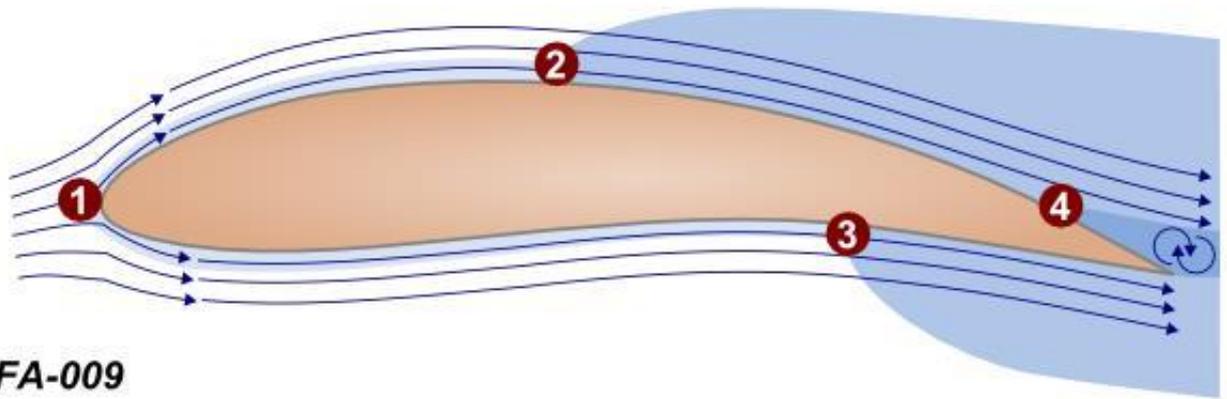
9 The ratio of span and mean chord length is referred to as... (1,00 P.)

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

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

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

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

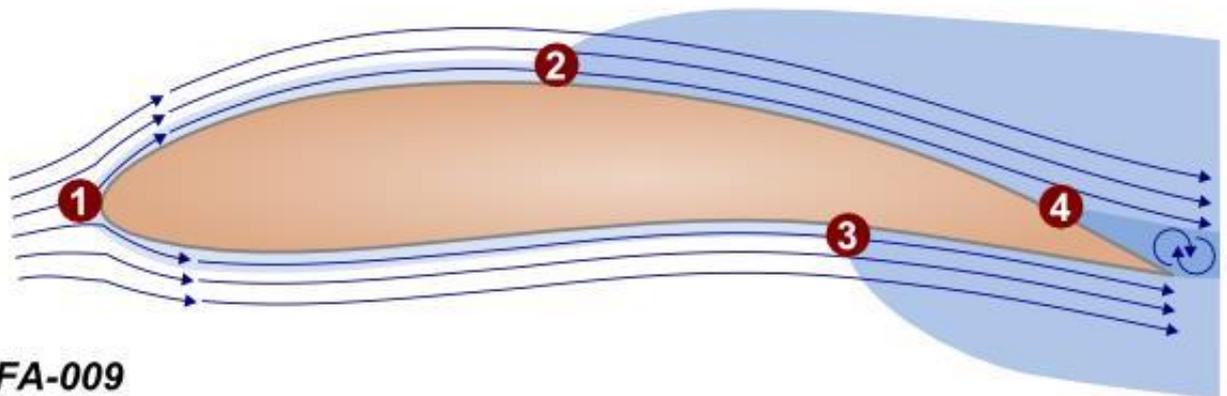


PFA-009

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

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

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



PFA-009

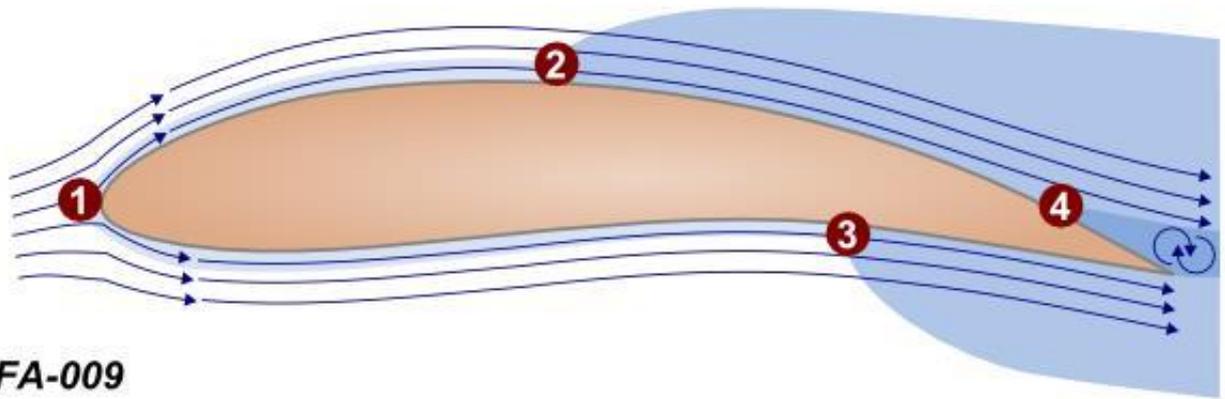
12 Wing tip vortex development begins during which phase of flight? (1,00 P.)

- When lift is being generated during rotation
- As soon as the aircraft starts moving
- While setting flaps to lower position
- While setting take-off power during take-off run

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

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

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



- 14 What pattern can be found at the stagnation point? (1,00 P.)**
- The laminar boundary layer changes into a turbulent boundary layer
 - 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
- 15 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
- 16 The position of the the center of pressure at a positively shaped profile... (1,00 P.)**
- moves to the leading edge while the angle of attack becomes smaller.
 - moves to the trailing edge while the angle of attack becomes smaller.
 - is located at approximately 25% of the chord, measured from the leading edge.
 - does not move since it is independent of the angle of attack.
- 17 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 backward until reaching the critical angle of attack
 - It moves forward until reaching the critical angle of attack
 - It moves forward first, then backward
 - It moves to the wing tips
- 18 Which statement about lift and angle of attack is correct? (1,00 P.)**
- 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
 - Increasing the angle of attack results in less lift being generated by the aerofoil
 - Too large angles of attack can lead to an exponential increase in lift

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

- The center of pressure moves up
- The center of pressure moves down
- The stagnation point moves down
- The stagnation point moves up

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

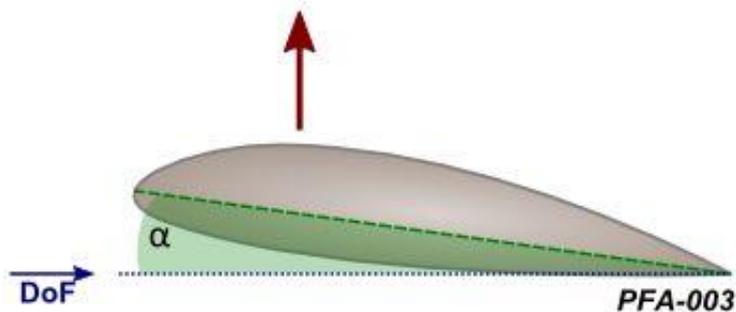
- The stagnation point remains constant
- The center of pressure moves aft
- The center of pressure moves forward
- The stagnation point moves down

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

See figure (PFA-003)

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

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



22 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.)

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

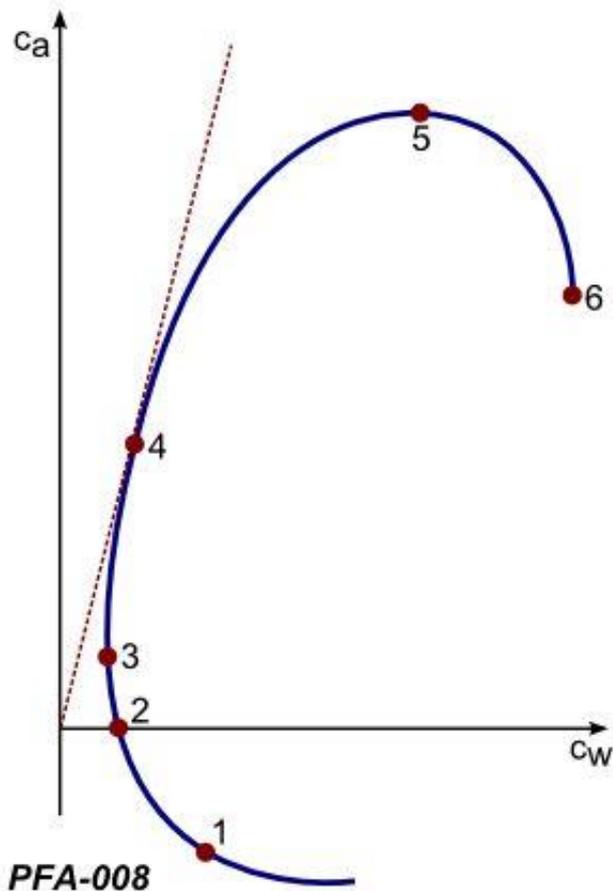
23 Which option states a benefit of wing washout? (1,00 P.)

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

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

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

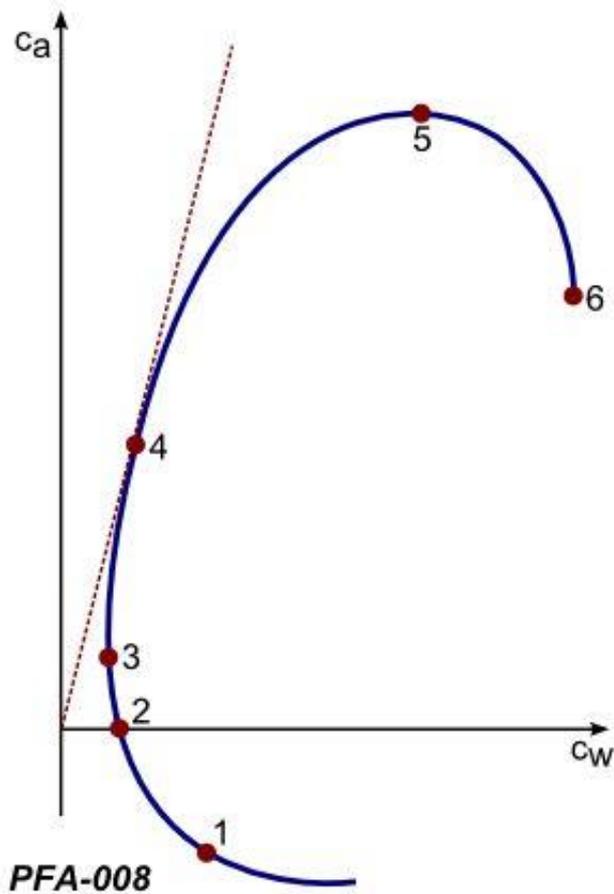
- Inverted flight
- Stall
- Slow flight
- Best gliding angle



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

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

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



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

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

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

28 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.

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

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

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

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

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

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

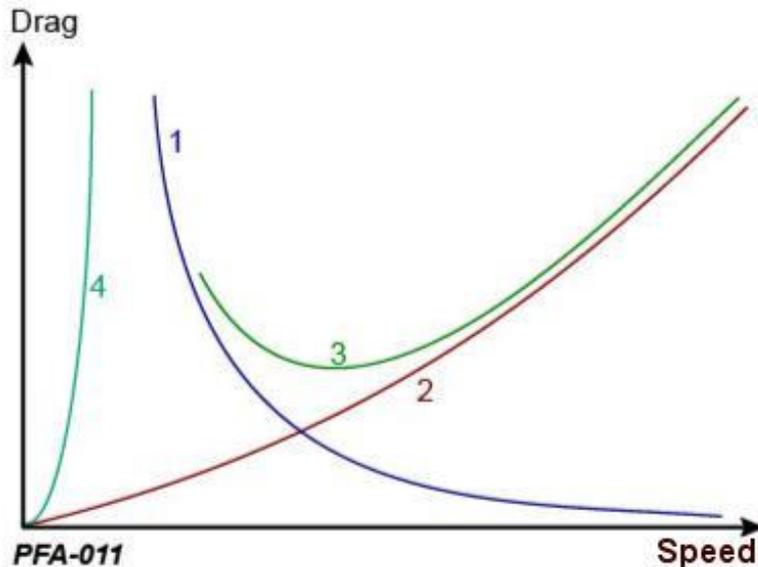
32 Where is interference drag generated? (1,00 P.)

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

33 Which curve represents the induced drag?

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

- 3
- 4
- 1
- 2



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

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

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

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

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

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

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

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

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

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

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

40 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

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

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

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

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

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

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

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

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

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

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

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

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

47 The stall warning will be activated just before reaching which speed? (1,00 P.)

- V_X
- V_R
- V_{NE}
- V_S

48 In motorplanes the stall warning is usually activated by a change of... (1,00 P.)

- the center of gravity.
- the stagnation point.
- the transition point.
- the center of pressure.

49 How should the pilot react to an engaged stall warning? (1,00 P.)

- Pull the elevator, decrease power
- Pull the elevator, increase power
- Raise the nose to decrease airspeed
- Push the elevator, increase power

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

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

51 When extending the flaps for landing at constant angle of attack, in which way does the lift coefficient change far before reaching the maximum lift coefficient? (1,00 P.)

- It increases
- It decreases
- It is not possible to define
- It remains constant

52 With regard to flaps, which of the following options provides a lift-increasing effect? (1,00 P.)

- Decreasing the form drag
- Lowering the induced drag
- Increasing the aerofoil camber
- Decreasing the angle of attack

53 Which factor can be changed by deploying flaps for landing? (1,00 P.)

- The effectiveness of the ailerons
- The twist effect of the engine
- The position of the center of gravity
- The trim condition

54 What is the principle of a Fowler flap? (1,00 P.)

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

55 What kind of landing aids may not be retracted suddenly near the ground? (1,00 P.)

- Spoilers
- Schempp-Hirth flaps
- Airbrakes
- Flaps

56 A take-off with flaps in take-off position causes... (1,00 P.)

- a shortening of the take-off run.
- an increased acceleration.
- an increased rate of climb.
- a decrease in drag.

57 Provided that no other procedure is described in the Aircraft Operating Handbook, after increasing the engine power in a go-around, the flaps may... (1,00 P.)

- not be operated up to the minimum safe altitude.
- be retracted to a middle position.
- remain fully extended until reaching the traffic pattern.
- be fully retracted without any delay.

58 How do lift and drag change when setting flaps to a lower position? (1,00 P.)

- Lift increases, drag increases
- Lift decreases, drag increases
- Lift increases, drag decreases
- Lift decreases, drag decreases

59 Compared to trailing edge flaps, leading edge devices like Slots... (1,00 P.)

- increase the camber and allow a lower angle of attack.
- reduce the critical angle of attack at a given speed.
- allow higher speeds at take-off and landing.
- produce less drag while allowing a higher angle of attack.

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

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

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

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

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

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

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

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

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

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

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

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

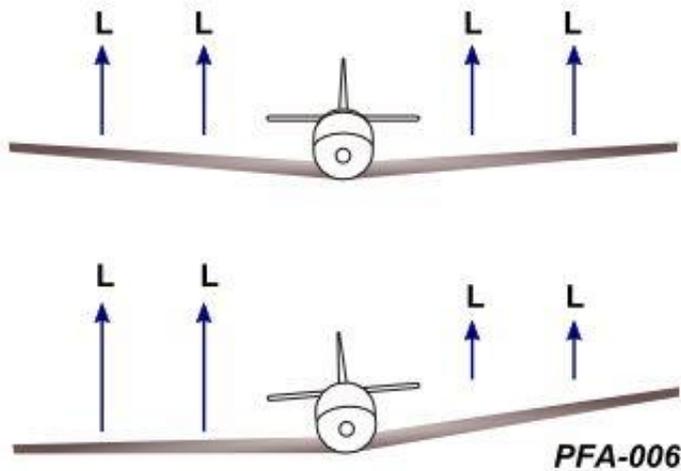
- Centrifugal force
- Lift force
- Gravitational force
- Drag force

67 Which constructive feature is shown in the figure?

See figure (PFA-006)

L: Lift (1,00 P.)

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

78 The elevator deflection during take-off rotation... (1,00 P.)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

87 The aerodynamic rudder balance... (1,00 P.)

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

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

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

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

- To prevent control surface flutter
- To limit the control stick forces
- To increase the control stick forces

- To trim the controls almost without any force

90 During cruise flight with constant power setting, an aircraft shows a permanent tendency to raise the nose.

How can this tendency be eliminated? (1,00 P.)

- By deflecting the elevator trim tab upwards
- By deflecting the elevator trim tab downwards
- By elevator deflection upwards
- By shifting the center of gravity backwards

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

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

92 The trim tab at the elevator is deflected upwards.

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

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

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

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

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

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

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

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

96 Which statement regarding the "constant-speed propeller" is correct? (1,00 P.)

- The propeller keeps the airspeed constant
- The pitch of the propeller rises with higher speeds
- The RPM decreases with lower speeds
- The set RPM is kept constant by the motor power (MAP)

97 The change in pitch at a propeller blade from the root to the tip ensures... (1,00 P.)

- the largest possible angle of attack at the blade tip.
- a nearly constant load by a constant effective angle of attack over the entire length of the blade.
- that the most thrust is produced at the blade root.
- that the most thrust is produced at the blade tip.

98 What effects typically result from propeller icing? (1,00 P.)

- Increased power output, increasing RPM.
- Increased power output, decreasing RPM.
- Reduced power output, increasing RPM.
- Reduced power output, decreasing RPM.

99 After an engine failure, the windmilling propeller... (1,00 P.)

- improves the properties of the glide.
- has a greater pitch in feathered position.
- generates drag rather than thrust.
- generates neither thrust nor drag.

100 During a descent at idle power with constant speed, the propeller lever is moved backwards.

How do the propeller pitch and sink rate change? (1,00 P.)

- Propeller pitch is increased, sink rate is decreased
- Propeller pitch is increased, sink rate is increased
- Propeller pitch is decreased, sink rate is increased
- Propeller pitch is decreased, sink rate is decreased

101 During a straight and steady climb, which force acts additionally, and in the same direction as the drag force, resulting in more power required for climb than for horizontal flight? (1,00 P.)

- A component of the weight force along the rearward flight path.
- A component of the lift force along the forward flightpath.
- A component of the thrust along the rearward flightpath.
- The vertical component of the weight force.

102 The bank in a two-minute turn (rate one turn) depends on the... (1,00 P.)

- wind.
- TAS.
- weight.
- load factor.

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

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

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

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Part-FCL Question Bank

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(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 the start of the take-off run to the final touchdown when landing.
- 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.

2 What should be considered regarding a scheduled flight over water, when land cannot be reached in case of an emergency landing? (1,00 P.)

- Transponder code 7600 has to be set during the whole flight
- Contact to the nearest ATC shall consist during the whole flight
- For all passengers there must be life jackets or lifeboats present
- The flight plan has to contain the exact waypoints

3 Which of the items below may have an influence on the noise perceived by a person on the ground?

- 1) Engine power setting
- 2) Propeller revolutions per minute
- 3) Position of the landing gear
- 4) Flap position
- 5) Flight track
- 6) Height above ground
- 7) Flight rules (1,00 P.)

- 1, 2, 3, 4, 5, 6
- 1, 5, 6
- 1, 5, 6, 7
- 3, 4, 5, 6, 7

4 How can the pilot of an engine-driven aircraft minimise the noise emission during descent and approach? (1,00 P.)

- High approach with minimum power setting, late descent, late configuration, adherence to established arrival routes
- Descent and approach in landing configuration while maintaining a descent angle of 3°, direct approach whenever possible
- Low approach with minimum power setting, late configuration and steep approach, adherence to established arrival routes
- Normal approach with normal power setting, configuration prior to initiating descent, shortest possible arrival route

5 When should turns at low altitudes above villages be avoided with regard to noise abatement procedures? (1,00 P.)

- In horizontal flight
- In climb
- During the approach
- In descent

6 How should departures near villages be carried out? (1,00 P.)

- Slow with a low propeller rotation speed
- Villages should be circumnavigated and crossed in a sufficient altitude
- Low and fast between the villages
- Climb and changes in direction should be done as slow as possible

7 Which kind of engine is susceptible to carburettor fire? (1,00 P.)

- Turbine engines
- Piston engines
- Electric motors
- Turboprop engines

8 Why is it dangerous to pump the throttle for engine start in cold weather? (1,00 P.)

- The engine might start with not enough power
- The oil will become diluted
- Carburettor icing can occur
- It may cause a carburettor fire

9 Which danger exists during engine start? (1,00 P.)

- Smoke emission
- Carburettor fire
- Sparking
- Cable fire

10 May an engine, which previously was on fire, be restarted? (1,00 P.)

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

11 Which gas is most dangerous during an engine fire? (1,00 P.)

- Oxygen
- Carbon monoxide
- Nitrogen
- Carbon dioxide

12 Smoke enters the cockpit during an engine fire.**Which actions have to be taken immediately? (1,00 P.)**

- Switching off the heating and the ventilating system
- Switching off the pitot and front window heating
- Switching off the avionics and the cabin lighting
- Switching off the master switch and the ignition

13 What should be the first action in case of a cable fire during a flight? (1,00 P.)

- Open the windows
- Open cabin ventilation
- Close the fuel valve
- Turn off the master switch

14 What extinguishing agent is the least suitable for an aircraft fire? (1,00 P.)

- Water
- Foam
- Halon
- Powder

15 In flight, a little smoke emerges from behind the instrument panel. An electrical fire is suspected.**Which action, with respect to the pilot's operating manual, should be taken? (1,00 P.)**

- Turn off the heat
- Use the fire extinguisher
- Shut down the engine
- Turn off the master switch

- 16 In flight, a little smoke emerges from behind the instrument panel. An engine fire is suspected.**

Which action, with respect to the pilot's operating manual, should be taken? (1,00 P.)

- Turn off the heat
- Shut down the engine
- Turn off the master switch
- Use the fire extinguisher

- 17 A wind shear is... (1,00 P.)**

- a vertical or horizontal change of wind speed and wind direction.
- a wind speed change of more than 15 kt.
- a slow increase of the wind speed in altitudes above 13000 ft.
- a meteorological downslope wind phenomenon in the alps.

- 18 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 increases
- Path is higher, IAS decreases
- Path is lower, IAS decreases
- Path is lower, IAS increases

- 19 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 higher, IAS increases
- Path is lower, IAS increases
- Path is higher, IAS decreases
- Path is lower, IAS decreases

- 20 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 higher, IAS decreases
- Path is higher, IAS increases
- Path is lower, IAS increases
- Path is lower, IAS decreases

21 After take-off an aeroplane gets into a wind shear with decreasing headwind.

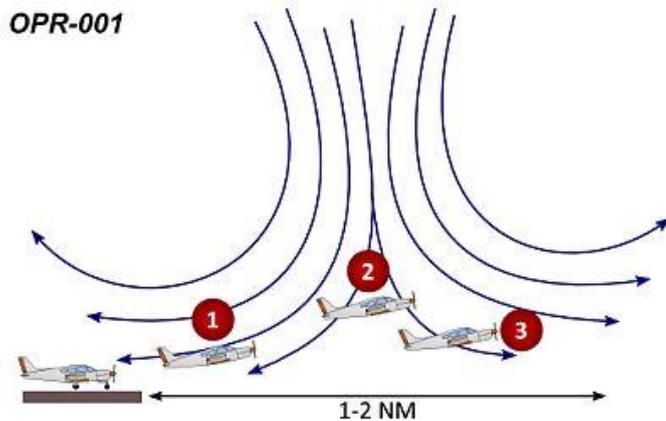
As a result... (1,00 P.)

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

22 Which phenomenon may be expected at point 2 of the microburst?

See figure (OPR-001) (1,00 P.)

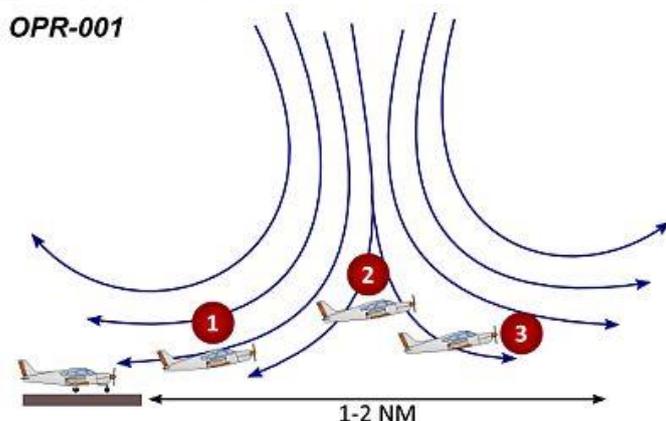
- Decrease of descent rate
- Increase of airspeed
- Decrease of climb rate
- Constant rate of descent



23 Which phenomenon may be expected at point 3 of the microburst?

See figure (OPR-001) (1,00 P.)

- Decrease in airspeed
- Constant rate of descent
- Increase in airspeed
- Decrease in climb rate



24 Which of the following weather phenomena is most hazardous during approach and landing close to frontal thunderstorms? (1,00 P.)

- Precipitation
- Decrease in temperature
- Falling pressure
- Gusts

25 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 areas of precipitation, particularly during winter, and choose low flight altitudes
- Avoid take-off and landing during the passage of heavy showers or thunderstorms
- Avoid take-offs and landings in mountainous terrain and stay in flat country whenever possible

26 What action should be taken when entering a windshear?

- 1. Reduce speed**
- 2. Retract gear and flaps**
- 3. Maintain current configuration**
- 4. Adjust thrust (1,00 P.)**

- 3 and 4
- 1 and 3
- 1 and 2
- 2 and 4

27 After lift-off, a much stronger than expected airspeed rise is experienced during the initial climb phase.

What may be expected if the aeroplane entered a microburst? (1,00 P.)

- An increased climb rate and airspeed
- A decreased climb rate and airspeed
- An increased climb rate and decreased airspeed
- A decreased climb rate and increased airspeed

28 Immediately after lift-off, a microburst is entered inadvertently.

Which action might avoid an unintentional descent? (1,00 P.)

- Set maximum power, retract landing gear and flaps, increase pitch until attaining optimum climb speed
- Set maximum power, maintain present aircraft configuration, climb at the best rate of climb speed
- Set maximum power, retract landing gear and flaps, pick up speed and perform a left or a right turn in an attempt to leave the area of the microburst on the shortest way
- Set maximum power, maintain present aircraft configuration, pick up speed in an attempt to leave the area of the microburst as fast as possible

29 Wake turbulences develop during take-off just as the aeroplane... (1,00 P.)

- lifts off with the front gear.
- lifts off with the main gear.
- accelerates.
- reaches an altitude of 15 ft.

30 Wake turbulence is caused by... (1,00 P.)

- pressure compensation at the wingtip of an aerofoil.
- turbulence at the downwind side of a mountain range.
- jet blast behind a turbine engine.
- wind shear at the wingtip of an aerofoil.

31 Wake turbulence is particularly strong... (1,00 P.)

- when flying at high speeds.
- when flying at high altitudes.
- when flying at low speeds.
- when flying at low altitudes.

32 Wake turbulence is particularly strong... (1,00 P.)

- at a low aeroplane weight.
- when flying with high thrust.
- when flying with low thrust.
- at a high aeroplane weight.

33 The intensity of wake turbulence depends on... (1,00 P.)

- the propeller pitch.
- the altitude of the aeroplane.
- the temperature.
- the weight of the aeroplane.

34 Two aircraft of the same type, same gross weight and same flap configuration fly with different speeds and altitude.**Which aircraft will cause more wake turbulence? (1,00 P.)**

- The aircraft flying at lower speed.
- The aircraft flying at a higher altitude
- The aircraft flying at a lower altitude
- The aircraft flying at higher speed.

35 A light aircraft intends to land behind a commercial airliner belonging to wake turbulence category "medium" or "heavy" on a long runway.

How can the wake turbulence of the commercial aircraft be avoided? (1,00 P.)

- By making a shallow approach and a very short landing. The light aircraft should be able to stop before reaching the airliner's touchdown point
- By making a shallow approach and a long landing, touching down behind the touchdown point of the airliner's nose gear
- By making a steep approach and a long landing, touching down behind the touchdown point of the airliner's nose gear
- By making a steep approach and a very short landing. The light aircraft should be able to stop before reaching the airliner's touchdown point

36 What should be observed when taxiing behind a commercial airliner? (1,00 P.)

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

37 Which method is appropriate to approach an unprepared landing field? (1,00 P.)

- Flat direct approach to ensure visual ground contact
- Steep approach to keep the noise level low
- Terrain investigation to determine approach points and landing
- Fast approach, performance check, and landing within a quick stop

38 Which area is suitable for an off-field landing? (1,00 P.)

- Glade with long dry grass
- Sports area in a village
- Plowed field
- Harvested cornfield

39 An emergency landing is a landing... (1,00 P.)

- conducted without power from the engine.
- conducted in an attempt to keep up safety regarding an aircraft and its occupants.
- conducted with the flaps retracted.
- conducted in response to circumstances forcing the aircraft to land.

- 40 A landing conducted in response to circumstances forcing the aircraft to land is a / an... (1,00 P.)**
- emergency landing.
 - precautionary landing.
 - urgent landing.
 - field or out landing.
- 41 A precautionary landing is a landing... (1,00 P.)**
- conducted in response to circumstances forcing the aircraft to land.
 - conducted without power from the engine.
 - conducted with the flaps retracted.
 - conducted in an attempt to sustain flight safety.
- 42 Which of the following landing areas is most suitable for an off-field landing? (1,00 P.)**
- A meadow without livestock
 - A field with ripe waving crops
 - A light brown field with short crops
 - A lake with an undisturbed surface
- 43 After a precautionary landing the brakes and wheels are very hot.**
- In which way should the pilot approach them? (1,00 P.)**
- From the front or back side
 - At an angle of 45°
 - From the right or left side
 - From the front, right or left side
- 44 What needs to be observed in conjunction with overheated brakes? (1,00 P.)**
- The affected tyres may burst in axial direction
 - The affected brakes need to be cooled down with halon
 - The wheel fairing shall be taken off to increase the cooldown
 - The affected tyres may burst in radial direction or direction of rotation
- 45 In case of an emergency ditching, the life vests have to be inflated... (1,00 P.)**
- before disembarking the aircraft.
 - after disembarking the aircraft at a safe distance of about 10 m.
 - after disembarking the aircraft.
 - during disembarking the aircraft.

- 46 Under which circumstances may a runway be considered to be contaminated? (1,00 P.)**
- When more than 50 % of the runway surface area within the required length and width being used is covered by water, slush, snow or ice more than 3 mm deep
 - When 75 % of the required runway length and width are covered by contaminants such as snow, frost, ice or sand
 - When more than 50 % of the required runway length and width are covered by contaminants such as snow, frost, ice or sand
 - When more than 25 % of the runway surface area within the required length and width being used is covered by water, slush, snow or ice more than 3 mm deep
- 47 What minimum coverage with ice or snow must be given to call a runway "contaminated"? (1,00 P.)**
- 10 %
 - 50 %
 - 75 %
 - 25 %
- 48 Wet snow on a runway can lead to... (1,00 P.)**
- increased rolling resistance during take-off.
 - an increase in lift.
 - a decrease in lift.
 - reduced rolling resistance during take-off.
- 49 What danger does standing water on the runway pose to aircraft? (1,00 P.)**
- Decreased rolling resistance during take-off
 - A decrease in lift
 - Increased rolling resistance during take-off
 - An increase in lift
- 50 Which danger exists after a heavy rain shower for a landing aircraft? (1,00 P.)**
- Decreased braking distance due to aquaplaning
 - Difficult flare due to glare
 - Longer braking distance due to aquaplaning
 - Displacement of the tire slip marking
- 51 Which would be the correct reaction when hydroplaning is suspected upon landing? (1,00 P.)**
- Cross rudder and aileron controls in order to use the aircraft fuselage to brake aerodynamically
 - Apply maximum braking to reduce aircraft speed to less than hydroplaning speed, then continue normal ground roll
 - If all wheels are in motion, brake moderately. Maintain directional control by aerodynamic means
 - Add power and use flaps and spoilers to brake aerodynamically

52 What does the brake coefficient specify? (1,00 P.)

- The proportion between brake force applied and landing distance
- The proportion between friction force and contact pressing force between two objects
- The proportion between Coriolis force and contact pressing force between two objects
- The proportion between brake force applied and landing ground roll

53 How should a landing on a contaminated runway be conducted if it proves to be inevitable? (1,00 P.)

- Approach with the minimum crosswind component possible, use minimum flaps, touch down softly with positive pitch and minimum speed, do not apply brakes
- Approach with the minimum crosswind component possible, use maximum flaps, touch down with negative pitch and minimum speed, brake carefully
- Approach with the minimum crosswind component possible, use maximum flaps, touch down firmly with minimum speed, brake carefully
- Approach with the minimum crosswind component possible, use minimum flaps, touch down softly with minimum speed, do not apply brakes

54 During final approach, the glider pilot realizes a very bumpy surface on a selected off-field landing site.**What technique may be recommended for landing? (1,00 P.)**

- Approach with increased speed, push elevator upon first ground contact
- Touch down with minimum speed, keep elevator pulled until full stop
- Approach with increased speed, avoid using wheel brakes
- Touch down with minimum speed, compensate different ground levels with power lever

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Part-FCL Question Bank

PPL(A)

*Acc. (EU) 1178/2011
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(Excerpt)

70 – Flight Performance and Planning



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1 Exceeding the maximum allowed aircraft mass is... (1,00 P.)

- only relevant if the excess is more than 10 %.
- exceptionally permissible to avoid delays.
- compensated by the pilot's control inputs.
- not permissible and essentially dangerous.

2 The center of gravity has to be located... (1,00 P.)

- in front of the front C.G. limit.
- between the front and the rear C.G. limit.
- behind the rear C.G. limit.
- right of the lateral C. G. limit.

3 The result of a rear C.G. position is... (1,00 P.)

- a decrease of stability.
- a decrease of range.
- an increased stall speed.
- an increased fuel consumption.

4 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.)**

- that the aircraft does not tip over on its tail while it is being loaded.
- 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.

5 The result of a front C.G. position is:

- 1. Increase in stability.**
- 2. Increase in fuel consumption.**
- 3. Increase in stall speed.**
- 4. Increase in range. (1,00 P.)**

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

6 The basic empty mass of an aircraft includes... (1,00 P.)

- the total mass of the aeroplane ready for a specific type of operation including crew, navigation instruments and engine cowling.
- the total mass of an aeroplane ready for a specific type of operation including the required fuel and crew, but excluding traffic load.
- the total mass of the aeroplane ready for a specific type of operation excluding unusable fuel and traffic load. The mass includes items such as crew and crew baggage.
- the mass of the aeroplane plus standard items such as unusable fuel and other unusable liquids, lubricating oil in engine and auxiliary units, fire extinguishers, pyrotechnics, emergency oxygen equipment, supplementary electronic equipment.

7 The empty weight and the corresponding center of gravity (CG) of an aircraft are initially determined... (1,00 P.)

- by weighing.
- by calculation.
- for one aircraft of a type only, since all aircraft of the same type have the same mass and CG position.
- through data provided by the aircraft manufacturer.

8 The density of AVGAS 100LL at 15° C is... (1,00 P.)

- 0.72 kg/l.
- 0.82 kg/l.
- 1.0 kg/l.
- 0.68 kg/l.

9 The conversion factor from kilogram [kg] into pounds [lb] is... (1,00 P.)

- $\text{kg} \times 2 = \text{lb}$.
- $\text{kg} \times 0.454 = \text{lb}$.
- $\text{kg} \times 2.205 = \text{lb}$.
- $\text{kg} / 2.205 = \text{lb}$.

10 Baggage and cargo must be properly stowed and fastened, otherwise a shift of the cargo may cause... (1,00 P.)

- continuous attitudes which can be corrected by the pilot using the flight controls.
- calculable instability if the C.G. is shifting by less than 10 %.
- uncontrollable attitudes, structural damage, risk of injuries.
- structural damage, angle of attack stability, velocity stability.

11 Loads must be adequately secured in order to... (1,00 P.)

- allow steep turns.
- prevent excessive 'g'-loading during the landing flare.
- avoid any centre of gravity (C.G.) movements.
- carry extra fuel.

12 The total weight of an aeroplane is acting vertically through the... (1,00 P.)

- neutral point.
- center of gravity.
- stagnation point.
- center of pressure.

13 The term "center of gravity" is defined as... (1,00 P.)

- another designation for the neutral point.
- the heaviest point on an aeroplane.
- half the distance between the neutral point and the datum line.
- the point at which the total mass of the aeroplane is considered to act.

14 The center of gravity (CG) defines... (1,00 P.)

- the point through which the force of gravity is said to act on a mass.
- the product of mass and balance arm.
- 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.

15 During an unaccelerated flight... (1,00 P.)

- thrust equals the sum of drag and gravity.
- thrust equals drag and lift equals gravity.
- drag equals lift and thrust equals gravity.
- thrust equals lift and drag equals gravity.

16 The term "datum" with regard to a mass and balance calculation defines... (1,00 P.)

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

- 17 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.
 - quotient of a mass and a balance arm.
 - product of a mass and a balance arm.
 - difference of a mass and a balance arm.
- 18 The term "balance arm" in the context of a mass and balance calculation defines the... (1,00 P.)**
- point through which the force of gravity is said to act on a mass.
 - distance from the datum to the center of gravity of a mass.
 - point on the longitudinal axis of an aeroplane or its extension from which the centers of gravity of all masses are referenced.
 - distance of a mass from the center of gravity.
- 19 The distance between the center of gravity and the datum is called... (1,00 P.)**
- span width.
 - torque.
 - lever.
 - balance arm.
- 20 The balance arm is the horizontal distance between... (1,00 P.)**
- the front C.G. limit and the rear C.G. limit.
 - the C.G. of a mass and the datum line.
 - the front C.G. limit and the datum line.
 - the C.G. of a mass and the rear C.G. limit.
- 21 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.
 - certificate of airworthiness.
 - mass and balance section of the pilot's operating handbook of this particular aircraft.
 - documentation of the annual inspection.
- 22 When preparing to carry out the weighing procedure on an aircraft, which of the following is required? (1,00 P.)**
- Drain all engine tank oil
 - Remove service equipment
 - Remove the batteries
 - Drain all useable fuel

23 Which section of the flight manual describes the basic empty mass of an aircraft? (1,00 P.)

- Normal procedures
- Performance
- Limitations
- Weight and balance

24 The position of the center of gravity equals...

See figure (PFP-052e) (1,00 P.)

- 142 in.
- 137.5 in.
- 147.5 in.
- 145.7 in.

PFP-052e

ITEM	MASS	ARM
Basic Empty Mass	3.156 lb	135,33 in
Front Seats	320 lb	135,50 in
Rear Seats	340 lb	177,00 in
Baggage	80 lb	248,23 in
Fuel	321,5 lb	150,31 in

25 What mass equals 102 litres of Avgas 100LL? (1,00 P.)

- 74 kg
- 142 lbs
- 142 kg
- 74 lbs

26 Calculated take-off mass = 2300 lbs, calculated CG = 95.75 in, fuel burn = 170 lbs on station 87.00 in.

Where is the CG situated after the landing? (1,00 P.)

- 97.39 in
- 94.11 in
- 96.57 in
- 96.45 in

- 27 **Given values:**
Calculated take-off mass = 746 kg
calculated CG = 37.1 cm
fuel burn = 30.5 l on station 45 cm.

Where is the CG situated after the landing? (1,00 P.)

- 37.5 cm
 37.2 cm
 36.3 cm
 36.9 cm

- 28 **Calculated take-off mass = 1082 kg, calculated CG = 0.254 m, fuel burn = 55 l on station 0.40 m.**

Where is the CG situated after the landing? (1,00 P.)

- 25.4 cm
 24.8 cm
 24.6 cm
 25.2 cm

- 29 **The position of the center of gravity (including fuel) equals...**

See figure(PFP-053e) (1,00 P.)

- 0.401 m.
 37.3 cm.
 0.403 m.
 37.1 cm.

PFP-053e

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

- 30 For the purpose of a flight preparation, the pilot calculates a total take-off mass of 750 kg and a total moment of 625 mmkg.**

Which cross marks the center of gravity (CG)?

See annex (PFP-003) (1,00 P.)

Siehe Anlage 1

- 2
- 1
- 3
- 4

- 31 For the purpose of a flight preparation the pilot calculates a total take-off mass of 725 kg and a total moment of 650 mmkg.**

Which cross marks the center of gravity (CG)?

See annex (PFP-004) (1,00 P.)

Siehe Anlage 2

- 3
- 1
- 2
- 4

- 32 For the purpose of a flight preparation the pilot calculates a total take-off mass of 775 kg and a total moment of 700 mmkg.**

Which cross marks the center of gravity (CG)?

See annex (PFP-005) (1,00 P.)

Siehe Anlage 3

- 4
- 1
- 3
- 2

- 33 Which is the most recently determined empty mass and the associated center of gravity (CG) arm from the aircraft documentation?

See annex (PFP-006) (1,00 P.)

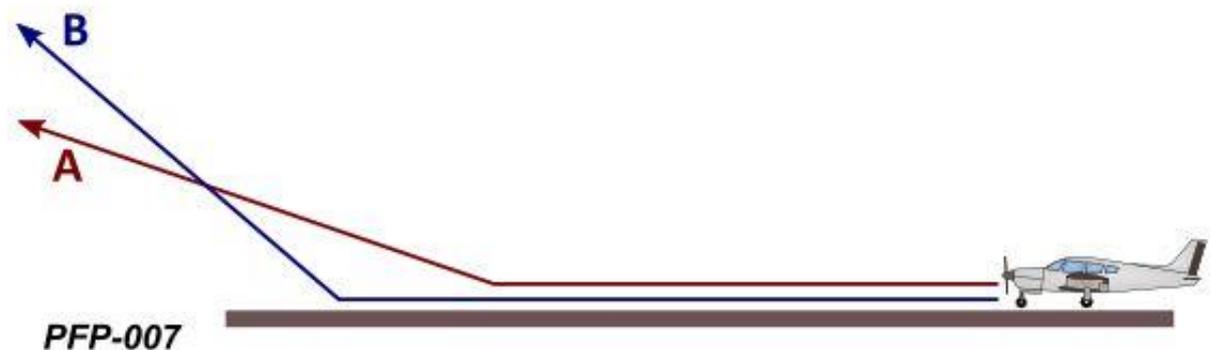
Siehe Anlage 4

- 5 kg; 1.3 m
- 4 kg; 1.1 m
- 498 kg; 280.59 m
- 512 kg; 285.39 m

- 34 How does the aircraft configuration influence take-off performance while all other parameters remaining constant?

See figure (PFP-007) (1,00 P.)

- Aircraft A has a higher flap setting than aircraft B
- Aircraft A has a higher tyre pressure than aircraft B
- Aircraft B has a higher flap setting than aircraft A
- Aircraft B has a higher tyre pressure than aircraft A



- 35 How does aircraft flap configuration influence the take-off performance?

(1,00 P.)

- A higher flap setting decreases ground roll and lift-off speed and increases climb performance
- A higher flap setting decreases ground roll and increases lift-off speed and climb performance
- A higher flap setting decreases ground roll and lift-off speed, but also climb performance
- A higher flap setting increases ground roll, lift-off speed, and climb performance

- 36 How does wind affect the take-off performance? (1,00 P.)

- Headwind causes an increased airflow around the wing. The take-off distance will increase
- Tailwind aids the aircraft in overcoming the initial drag at the commencement of the take-off roll. The take-off distance will decrease
- Headwind imposes an increased drag on the aircraft. The take-off distance will increase
- Tailwind reduces the relative wind on the airfoil. The take-off distance will increase

37 It is possible that the surface wind speed at an airport is reduced due to friction.

When a surface area with a minor tailwind condition is left during the initial climb, the pilot might expect... (1,00 P.)

- a decrease in airspeed and climb performance due to decreasing tailwind.
- a decrease in airspeed and rate of climb due to increasing tailwind.
- an increase in airspeed and rate of climb due to decreasing tailwind.

- an increase in airspeed and rate of climb due to increasing tailwind.

38 Which factor shortens landing distance? (1,00 P.)

- Strong head wind
- High density altitude
- Heavy rain
- High pressure altitude

39 Unless the aircraft is equipped and certified accordingly... (1,00 P.)

- flight into areas of precipitation is prohibited.
- 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.
- 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 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.

40 The speed V_x means... (1,00 P.)

- that a given altitude is reached with minimum fuel consumption.

- maximum altitude gain per 10 % power.
- that a given altitude is reached within minimum flight time.
- that a given altitude is reached within minimum distance.

41 The angle of descent is defined as... (1,00 P.)

- 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 percent [%].
- the ratio between the change in height and the horizontal distance travelled within the same time, expressed in percent [%].
- the angle between a horizontal plane and the actual flight path, expressed in degrees [°].

42 The term "steady flight" is defined as... (1,00 P.)

- climb or descent with a constant climb or descent rate in calm weather conditions.
- flight in smooth air without turbulence and a perfectly trimmed aircraft.
- flight with a steady power setting without changing course.
- unaccelerated flight. The four forces thrust, drag, lift, and weight are in equilibrium.

43 The speed V_y is defined as... (1,00 P.)

- best rate of climb.
- best angle of climb.
- best distance of climb.
- best speed of climb.

44 The speed V_{FE} is defined as... (1,00 P.)

- maximum landing gear extended speed.
- maximum flap extended speed.
- stalling or minimum steady flight speed with the flaps extended.
- stalling or minimum steady flight speed with the flaps retracted.

45 The speed V_{S0} is defined as... (1,00 P.)

- stalling speed or minimum steady flight speed in landing configuration.
- maximum landing gear extended speed.
- never-exceed speed.
- stalling speed or minimum steady flight speed obtained in a specific configuration.

46 The beginning of the white arc (1) indicates which airspeed?**See figure (PFP-008) (1,00 P.)**

- V_{S1} : Stall speed with retracted flaps.
- V_{FE} : Maximum flap extended speed.
- V_{S0} : Stall speed in landing configuration.
- V_{NO} : Maximum speed for normal operations.



47 The beginning of the green arc (2) indicates which airspeed?

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

- VNO: Maximum speed for normal operations
- VFE: Maximum flap extended speed
- VS0: Stall speed in landing configuration
- VS1: Stall speed with flaps up



48 The end of the green arc (4) indicates which airspeed?

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

- VFE: Maximum flap extended speed
- VNE: Never-exceed speed
- VNO: Maximum speed for normal operations
- VS1: Stall speed with flaps up

PFP-008



49 The red marking at the end of the yellow arc (5) indicates which airspeed?

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

- VS1: Stall speed with flaps up
- VNE: Never-exceed speed
- VFE: Maximum flap extended speed
- VNO: Maximum speed for normal operations



50 Which climb speed may be used to optimize the rate of climb (e.g. to reach a desired altitude within minimum time)? (1,00 P.)

- V_y , the best angle of climb speed
- V_x , the best rate of climb speed
- V_y , the best rate of climb speed
- V_x , the best angle of climb speed

51 For a take-off from runway 22 and a reported wind of 250°/10 kt, the longitudinal wind component equals... (1,00 P.)

- 9 kt tailwind.
- 5 kt tailwind.
- 9 kt headwind.
- 5 kt headwind.

52 Given the following conditions, the take-off distance equals...

**Outside air temperature: -20° C
 Pressure Altitude: 5000 ft
 Aeroplane mass: 750 kg
 Headwind: 10 kt**

See annex (PPF-009) (1,00 P.)

Siehe Anlage 5

- 310 m.
- 450 m.
- 380 m.
- 410 m.

- 53 A pilot wants to take off on runway 36, the reported wind is 240 degrees, 12 knots.**

What is the value of the wind components acting on the aircraft on take-off and landing? (1,00 P.)

- Crosswind from the right 6 kt.
Headwind 10.4 kt.
- Crosswind from the right 10.4 kt.
Tailwind 6 kt.
- Crosswind from the left 6 kt.
Tailwind 10.4 kt.
- Crosswind from the left 10.4 kt.
Tailwind 6 kt.

- 54 What is the take-off distance at 750 kg take-off mass, standard (ISA) conditions at an elevation of 4000 ft with 5 kt tailwind?**

See annex (PFP-009) (1,00 P.)

Siehe Anlage 5

- 480 m
- 630 m
- 320 m
- 900 m

- 55 What is the take-off distance at 705 kg take-off mass, OAT 20° C, QNH 1013 hPa at an elevation of 3500 ft with 5 kt tailwind?**

See annex (PFP-009) (1,00 P.)

Siehe Anlage 5

- 720 m
- 820 m
- 790 m
- 880 m

- 56 A pilot wants to take off on runway 36, the reported wind is 240 degrees 12 knots.**

What are the wind components acting on the aircraft on take-off and landing? (1,00 P.)

- Crosswind from the right 6 kt.
Headwind 10.4 kt.
- Crosswind from the right 10.4 kt.
Tailwind 6 kt.
- Crosswind from the left 6 kt.
Tailwind 10.4 kt.
- Crosswind from the left 10.4 kt.
Tailwind 6 kt.

57 Given the following conditions, the fuel consumption equals...

Pressure altitude: 2000 ft

Temperature: 31° C

RPM: 2400

See annex (PFP-012) (1,00 P.)

Siehe Anlage 6

- 22.8 l/h.
- 19.1 l/h.
- 19.5 l/h.
- 21.7 l/h.

58 Given the following conditions, the climb speed equals...

Outside air temperature: -20° C

Pressure altitude: 10000 ft

See annex (PFP-011) (1,00 P.)

Siehe Anlage 7

- 200 ft/min.
- 450 ft/min.
- 350 ft/min.
- 390 ft/min.

59 What range can be achieved at the following conditions?

Outside air temperature: 6° C

Pressure Altitude: 6000 ft

Power: 65 %

See annex (PFP-013) (1,00 P.)

Siehe Anlage 8

- 457 NM
- 482 NM
- 444 NM
- 503 NM

60 Given the following information, what range can be achieved?

Outside air temperature: 22° C

Pressure altitude: 2000 ft

Power: 55 %

See annex (PFP-013) (1,00 P.)

Siehe Anlage 8

- 550 NM
- 450 NM
- 500 NM
- 480 NM

61 Given the following conditions, the TAS equals...

Outside air temperature: 10° C

Pressure altitude: 6000 ft

Power: 65 %

See annex (PFP-014) (1,00 P.)

Siehe Anlage 9

- 88 kt.
- 96 kt.
- 92 kt.
- 100 kt.

62 Given the following conditions, the TAS equals...

Outside air temperature: -2° C

Pressure altitude: 8000 ft

Power: 75 %

See annex (PFP-014) (1,00 P.)

Siehe Anlage 9

- 95 kt.
- 110 kt.
- 104 kt.
- 100 kt.

- 63 Which maximum rate of climb can the aircraft reach at 9000 ft pressure altitude and OAT 12° C?**

See annex (PFP-011) (1,00 P.)

Siehe Anlage 7

- 200 ft/min
- 350 ft/min
- 250 ft/min

- 300 ft/min

- 64 Which is the maximum rate of climb for the aircraft at 6500 ft pressure altitude and an OAT of 0° C?**

See annex (PFP-011) (1,00 P.)

Siehe Anlage 7

- 800 ft / min
- 400 ft / min
- 480 ft / min
- 520 ft / min

- 65 What is the true airspeed (TAS) [kt] and fuel consumption [l/h] for cruise flight with 60 % power in flight level 60 under the following conditions?**

Temperature: ISA - 20° C

QNH: 980 hPa

See annex (PFP-012) (2,00 P.)

Siehe Anlage 6

- 95,75 kt.
19.8 l/h.
- 95 kt.
19.6 l/h.
- 96 kt.
19.1 l/h.
- 110 kt.
25.1 l/h.

- 66 What is the true airspeed (TAS) [kt] and fuel consumption [l/h] for cruise flight with 70 % power in flight level 60 under the following conditions?**

Temperature: ISA - 20° C

QNH: 980 hPa

See annex (PFP-012) (2,00 P.)

Siehe Anlage 6

- 95 kt.
19.6 l/h.
- 100 kt.
19.3 l/h.
- 110 kt.
23.9 l/h.
- 105 kt.
21.5 l/h.

- 67 What is the fuel flow and the true airspeed for cruise flight with 60 % power in flight level 85 at an OAT of -25° C?**

See annex (PFP-014) (1,00 P.)

Siehe Anlage 9

- Fuel flow: 20 l.
TAS: 89 kt.
- Fuel flow: 17.5 l.
TAS: 83 kt.
- Fuel flow: 17 l.
TAS: 81 kt.
- Fuel flow: 18.5 l.
TAS: 85 kt.

- 68 At which airspeed do you climb to flight level (FL) 75 after a departure from an airfield which is located at a pressure altitude of 3000 ft with an initial mass of 3000 lbs?**

OAT at airfield: 25° C

OAT in FL 75: 0° C

See annex (PFP-023)

(1,00 P.)

Siehe Anlage 10

- 90 kt
- 110 kt

- 120 kt
- 100 kt

- 69 What is the required fuel to climb from FL 65 to FL 95 under the following conditions?**

Aircraft mass: 3000 lb.

OAT in FL 65: -5° C

OAT in FL 95: -15° C

See annex (PFP-023)

(1,00 P.)

Siehe Anlage 10

- 2 GAL
- 6 GAL

- 1 GAL
- 3 GAL

- 70 What is the required distance to climb from FL 65 to FL 95 under the following conditions:**

Aircraft mass: 3000 lb.

OAT in FL 65: -5° C

OAT in FL 95: -15° C

See annex (PFP-023) (1,00 P.)

Siehe Anlage 10

- 3 NM
- 16 NM
- 6 NM
- 10 NM

- 71 What is the required distance to climb to flight level (FL) 75 after a departure from an airfield which is located at a pressure altitude of 3000 ft with an initial mass of 3000 lbs?

OAT at airfield: 25° C

OAT in FL 75: 0° C

See annex (PFP-023)
(1,00 P.)

Siehe Anlage 10

- 6 NM
- 10 NM
- 4 NM
- 7 NM

- 72 (For this questions, use attachment or CAP697 SEP1 Fig. 2.2 Table 2.2.3)

Planning a flight from EDWF (Leer Papenburg) to EDWH (Oldenburg Hatten), the following conditions apply:

Cruise level = FL 75

Temperature = ISA

Cruise weight = 3400 lbs

Power setting = 23.0 in. HG @ 2300 RPM

Determine True Airspeed (TAS) and Fuel Flow (FF): (2,00 P.)

Siehe Anlage 11

- TAS = 160 kt
FF = 11.9 GPH
- TAS = 145 kt
FF = 71.1 GPH
- TAS = 145 kt
FF = 11.9 GPH
- TAS = 160 kt
FF = 12.3 GPH

73 (For this questions, use attachment or CAP697 SEP1 Fig. 2.2 Table 2.2.3)

Planning a flight from EDWH (Oldenburg Hatten) to EDWF (Leer Papenburg), the following conditions apply:

Cruise level = FL 65

Temperature = ISA+20

Cruise weight = 3400 lbs

Power setting = 23.0 in. HG @ 2300 RPM

What Indicated Airspeed (IAS) and Fuel Flow (FF) can be expected? (2,00 P.)

Siehe Anlage 11

- IAS = 142 kt
FF = 11.5 GPH
- IAS = 158kt
FF = 11.5 GPH
- IAS = 150 kt
FF = 12.3 GPH
- IAS = 145 kt
FF = 11.9 GPH

74 (For this questions use attachment or CAP697 SEP1 Fig. 2.2 Table 2.2.3)

For planning a VFR flight, the following data are given:

Flight time with planning "overhead-overhead" = 2h 43min

Pressure Altitude = 6.500 ft

Temperature = ISA-20

Power setting = 2300 RPM

Taxi Fuel = 2 USG

Additional time for climb = 7 min,

Additional time for approach and landing = 10 min

The reserve fuel has to be 30% of trip fuel.

Determine the minimum block fuel: (2,00 P.)

Siehe Anlage 11

- 49.3 USG
- 43.8 USG
- 39.2 USG
- 47.3 USG

75 (For this questions use attachment or CAP697 SEP1 Fig. 2.2 Table 2.2.3)

For planning a VFR flight, the following data are given:

Flight time with planning "overhead-overhead" = 2h 42min

Pressure Altitude = 7.500 ft

Temperature = ISA

Power setting = 2300 RPM

Taxi Fuel = 2 USG

Additional time for climb = 8 min,

Additional time for approach and landing = 10 min

The reserve fuel has to be 30% of trip fuel.

Determine the minimum block fuel: (2,00 P.)

Siehe Anlage 11

- 51.8 USG
- 49.0 USG
- 37.7 USG
- 47.3 USG

76 The term "maximum elevation figure" (MEF) is defined as... (1,00 P.)

- the highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude plus a safety margin, rounded to the next higher 100 ft.
- the highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude.
- the highest elevation within an area covering 1 degree of latitude and 1 degree of longitude plus a safety margin, rounded to the next lower 100 ft.
- the highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude plus a safety margin of 1000 ft (305 m), rounded to the next higher 100 ft.

77 What is the purpose of "interception lines" in visual navigation? (1,00 P.)

- To visualize the range limitation from the departure aerodrome
- They are used as easily recognizable guidance upon a possible loss of orientation
- To mark the next available en-route airport during the flight
- They help to continue the flight when flight visibility drops below VFR minima

78 The VFR semicircular rules are based on the... (1,00 P.)

- true heading (TH).
- true course (TC).
- magnetic heading (MH).
- magnetic course (MC).

79 What is the lowest possible VFR flight level if a true course of 181° is selected and a variation of 3° east exists? (1,00 P.)

- FL 055
- FL 065
- FL 060
- FL 050

80 The upper limit of LO R 16 equals...

See annex (PFP-056) (1,00 P.)

Siehe Anlage 12

- 1 500 m MSL.
- FL150.
- 1 500 ft MSL.
- 1.500 ft GND.

81 The upper limit of LO R 4 equals...

See annex (PFP-030) (1,00 P.)

Siehe Anlage 13

- 4.500 ft MSL.
- 4.500 ft AGL.

- 1.500 ft MSL.
- 1.500 ft AGL.

82 How much taxi fuel must be consumed before take-off to reduce the aircraft mass to the maximum take-off mass?

Maximum ramp mass (MRM): 1150 kg

Actual ramp mass: 1148 kg

Maximum take-off mass (MTOM): 1145 kg (1,00 P.)

- 4 L
- 5 L
- 2 L
- 3 L

83 Considering the following fuel data, how much trip fuel is required?

Fuel for start-up and taxi: 5 L
Fuel for take-off and climb: 12 L
Fuel for cruise flight: 25 L
Fuel for descent, approach and landing: 7 L
Fuel for taxi and parking: 3 L
Fuel to alternate: 13 L
Final reserve fuel: 10 L
(1,00 P.)

- 49 L
- 44 L
- 52 L
- 75 L

84 Up to which altitude is an overflight prohibited according to the NOTAM?

See figure (PFP-024) (1,00 P.)

- Altitude 9500 ft MSL
- Height 9500 ft
- Flight Level 95
- 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

85 On a VFR-flight, before reaching a compulsory reporting point, the received ATIS states 4000m visibility.

What is necessary to enter the CTR? (1,00 P.)

- A visual IFR clearance.
- A Special VFR clearance.
- A Minimum VFR clearance.
- A Controlled VFR clearance.

86 The EOBT (estimated off-block time) is specified in the ATS flight plan as... (1,00 P.)

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

87 What is the nature of the flight shown in the given ATC flight plan?

See annex (PFP-051) (1,00 P.)

Siehe Anlage 14

- Border crossing flight.
- Flight under instrument flight rules.
- Night flight under visual flight rules.
- Traffic pattern under visual flight rules.

88 The specified speed in the ATS flight plan equals:

See annex (PFP-051) (1,00 P.)

Siehe Anlage 14

- 1000 kt.
- 100 kt.
- 100 km/h.
- 100 m/h.

89 What must be considered for cross-border flights? (1,00 P.)

- Requires flight plans
- Approved exceptions
- Transmission of hazard reports
- Regular location messages

90 During a flight, a flight plan can be filed at the... (1,00 P.)

- next airport operator en-route.
- Search and Rescue Service (SAR).
- Flight Information Service (FIS).
- Aeronautical Information Service (AIS).

91 Given the following data:

Take-Off fuel = 200 lbs

Alternate fuel = 40 lbs

Final reserve fuel = 30 lbs

After 25 minutes the remaining fuel is 120 lbs.

**Assuming that fuel flow will remain unchanged,
the remaining time to the destination should not exceed:
(2,00 P.)**

- 59.4 min
- 20.0 min
- 15.6 min
- 37.5 min

92 Given the following data for a VFR flight:

Take-off fuel: 180 kg including reserve fuel, which is 30% of take off fuel.

After half of the distance the remaining fuel is 100 kg.

Assume that cruise conditions will remain unchanged.

Determine the remaining fuel at the destination: (2,00 P.)

- 40 kg
- 20 kg
- 10 kg
- 80 kg

**93 During a VFR flight the remaining usable fuel at a checkpoint is 80 USG.
Reserve fuel is 20 USG, remaining flight time according to flight plan is 2h 20min.**

What is the highest acceptable fuel flow (FF) for the rest of the trip? (2,00 P.)

- FF = 34.3 USG/h
- FF = 8.6 USG/h
- FF = 42.9 USG/h
- FF = 25.7 USG/h

94 Given the following data for a VFR flight:

Trip fuel = 70 US gallons

Contingency fuel = 5% of trip fuel

Alternate and final reserve fuel = 20 US gallons

Usable fuel at take-off = 95 US gallons

After half of the distance you read that you have consumed 40 US gallons.

Assume that fuel flow remains unchanged.

Which statement is correct? (2,00 P.)

- Upon landing 15.0 US gallons will remain in addition to alternate and final reserve fuel.
- Upon landing, a total of 40.0 US gallons will remain.
- Upon landing 5.0 US gallons will remain in addition to alternate and final reserve fuel.
- The remaining fuel is insufficient for a landing at destination with alternate and final reserve fuel remaining.

95 Given the following data for a VFR flight:

Trip fuel = 70 US gallons

Contingency fuel = 5% of trip fuel.

Alternate and final reserve fuel = 20 US gallons

Usable fuel at take-off = 90 US gallons

After half of the distance you read that you have consumed 30 US gallons.

Assume that fuel flow remains unchanged.

Which statement is correct? (2,00 P.)

- The remaining fuel is insufficient for a landing at destination with alternate and final reserve fuel remaining.
- Upon landing 30.0 US gallons will remain in addition to alternate and final reserve fuel.
- Upon landing 10.0 US gallons will remain in addition to alternate and final reserve fuel.
- Upon landing a total of 10.0 US gallons will remain.

96 (For this question, please use annex PFP-061)

According ICAO, what symbol indicates a group of unlighted obstacles? (2,00 P.)

Siehe Anlage 15

- B
- D
- C
- A

97 (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 16

- C
- A
- D
- B

98 (For this question, please use annex PFP-063)

According ICAO, what symbol indicates a general spot elevation? (2,00 P.)

Siehe Anlage 17

- A
- B
- D
- C

99 What factor is affected by headwind during a departure? (1,00 P.)

- Vy.
- Rate of climb
- Vx
- Climb path angle

100 In comparison to the true airspeed in still air conditions, the TAS in a strong tailwind will be... (1,00 P.)

- significantly lower for maximum endurance.
- the same for maximum range.

- slightly lower for maximum range.
- slightly higher for maximum endurance.

101 What happens to the true airspeed at a constant indicated airspeed during a climb? (1,00 P.)

- It increases
- It remains constant above 5000 ft
- It decreases
- It remains constant below 5000 ft

102 What is the effect of tailwind on the time to climb to a given altitude? (1,00 P.)

- No change
- It decreases
- Depends on the helicopter type
- It increases

103 A flight plan has been filed for a flight departing at an uncontrolled aerodrome.

When has the actual take-off time been transmitted to ATC? (1,00 P.)

- Immediately after take-off.
- Upon request from ATC.
- When landing is assured.
- At deviation from expected off-block time by more than 15 min.

104 During a flight with a flight plan submitted, landing is conducted at an airfield other than the destination stated in the filed flight plan.

Who has to be contacted by the pilot immediately? (1,00 P.)

- Aeronautical Information Service (AIS).
- The flight manager on duty.
- Local office for aerial supervision.
- The police department.

105 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.
- 6 min.
- 9 min.
- 12 min.

106 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.)

- 6 min.
- 12 min.
- 9 min.
- 18 min.

107 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.)

- 12 min.
- 60 min.
- 90 min.
- 180 min.

108 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.)

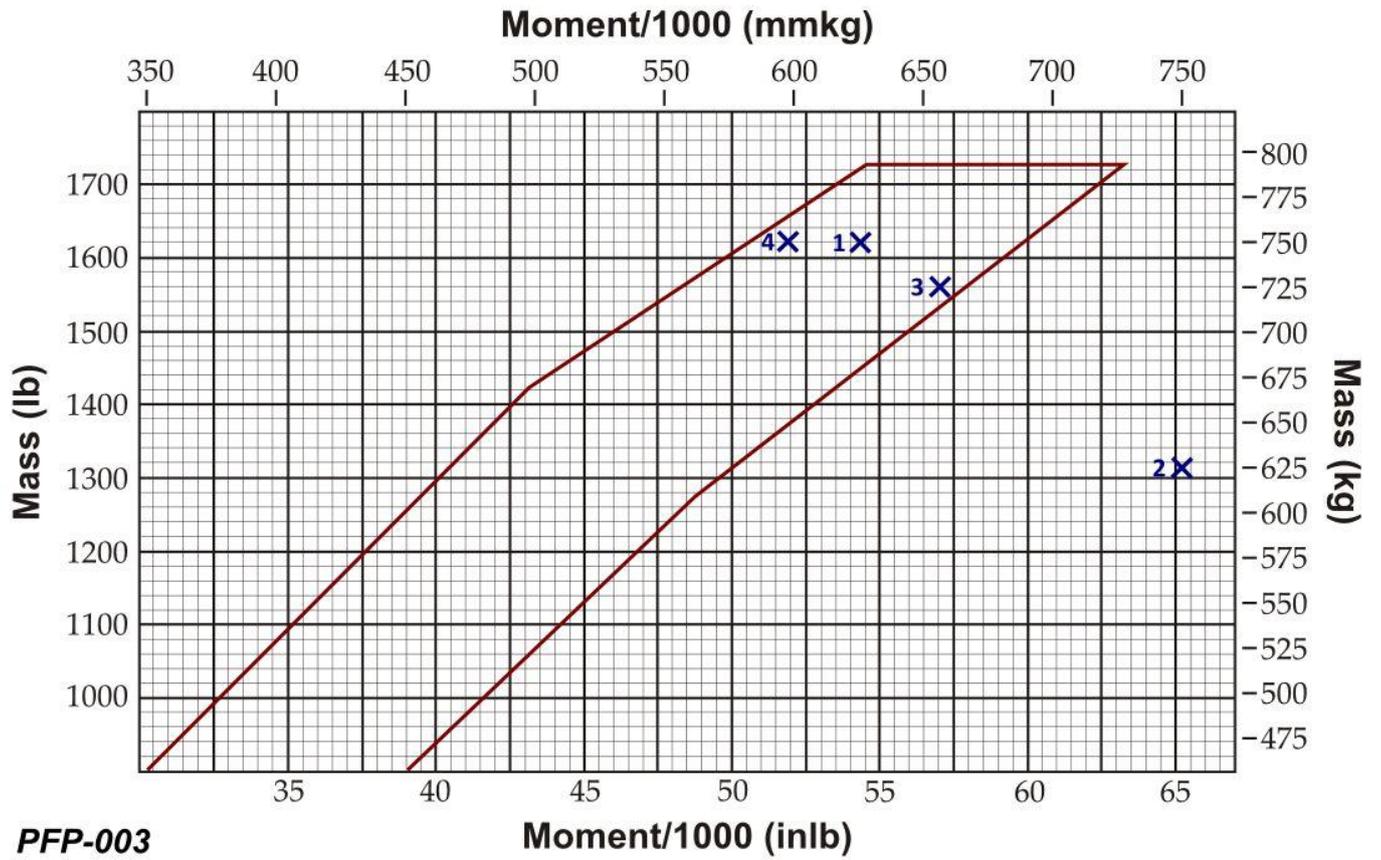
- 90 min.
- 60 min.
- 180 min.
- 12 min.

109 While overflying a waypoint, it is stated that a distance of 3 NM has been taken 10 min.

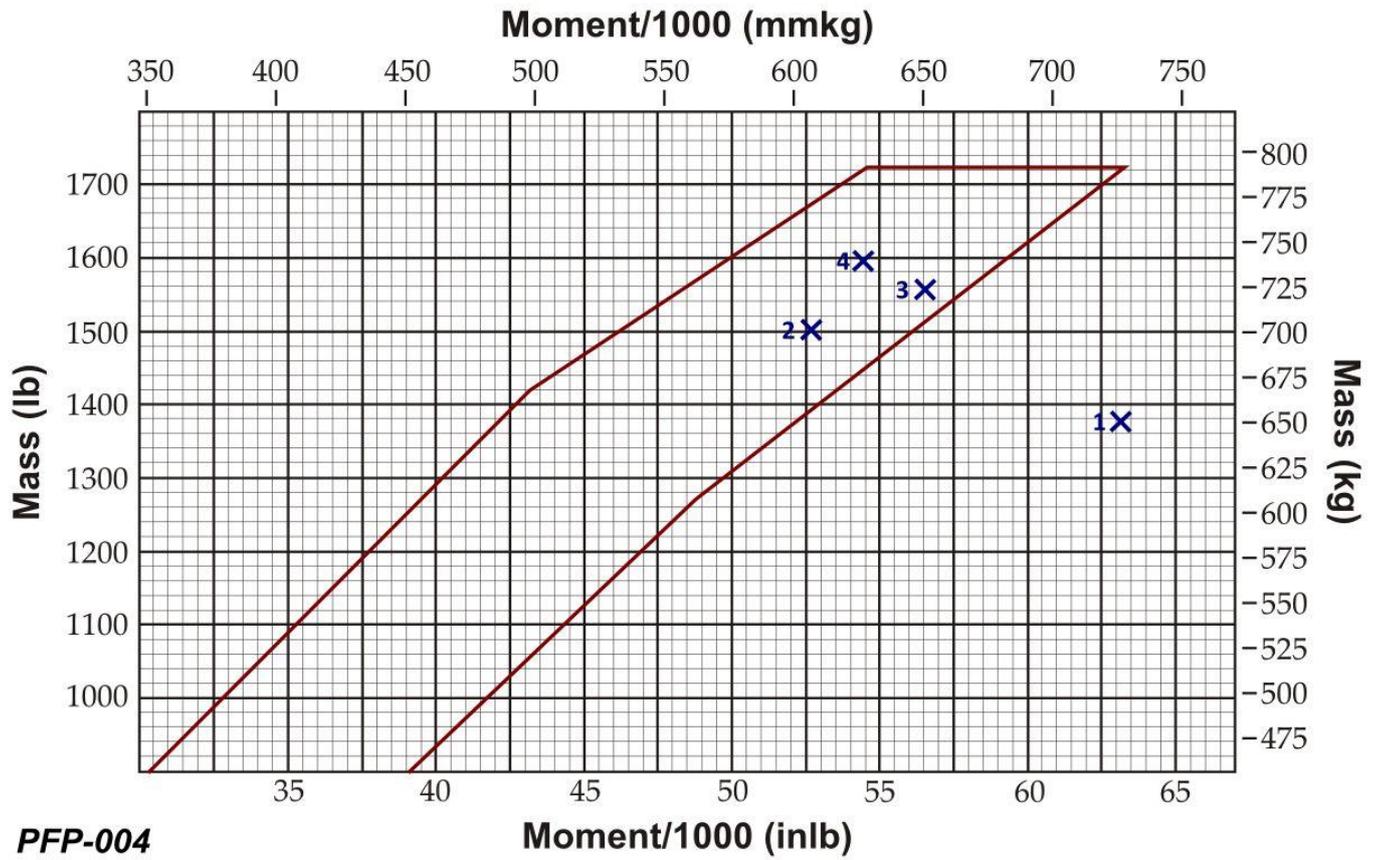
What will be the expected time of endurance for the remaining distance of 18 NM? (1,00 P.)

- 60 min.
- 180 min.
- 90 min.
- 12 min.

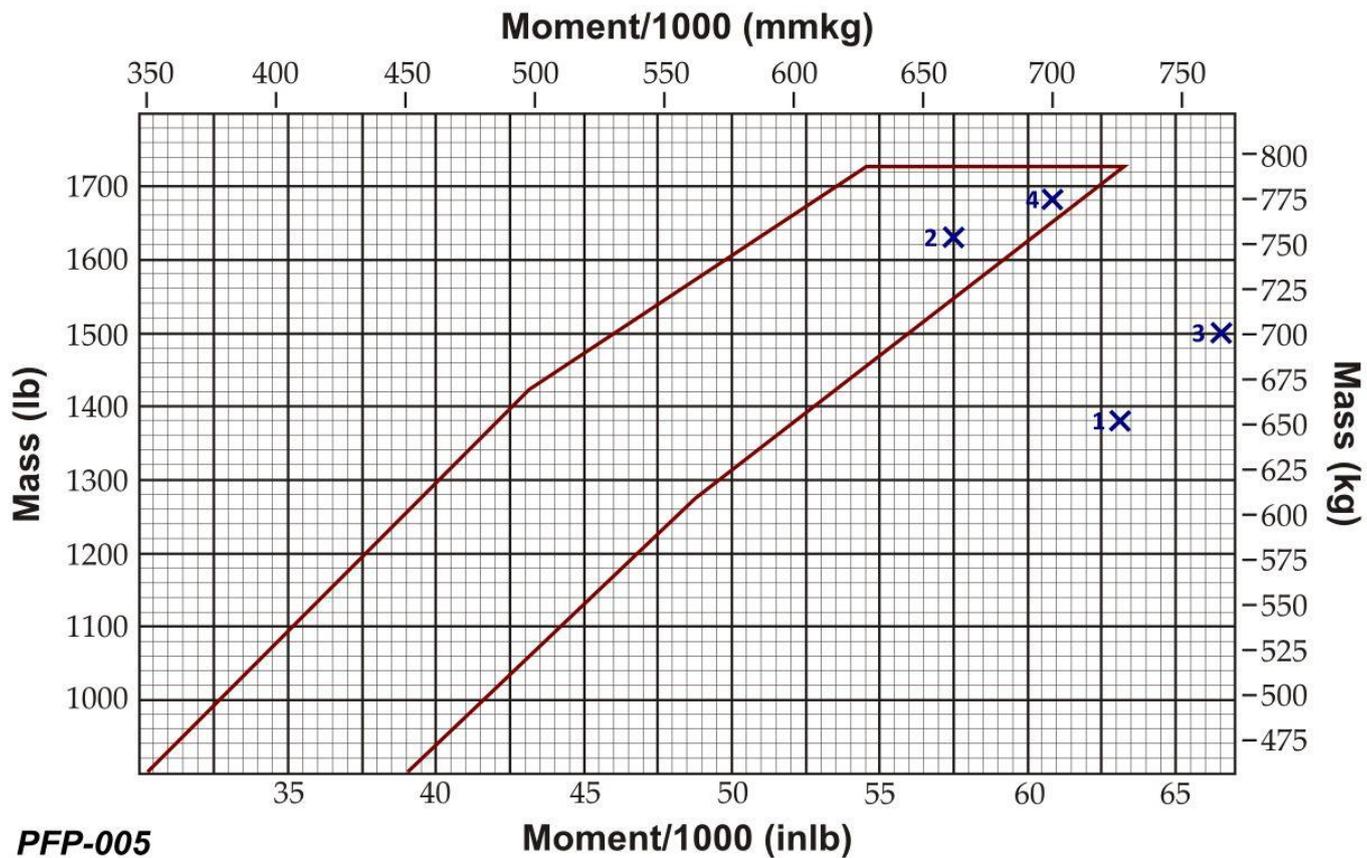
Anlage 1



Anlage 2



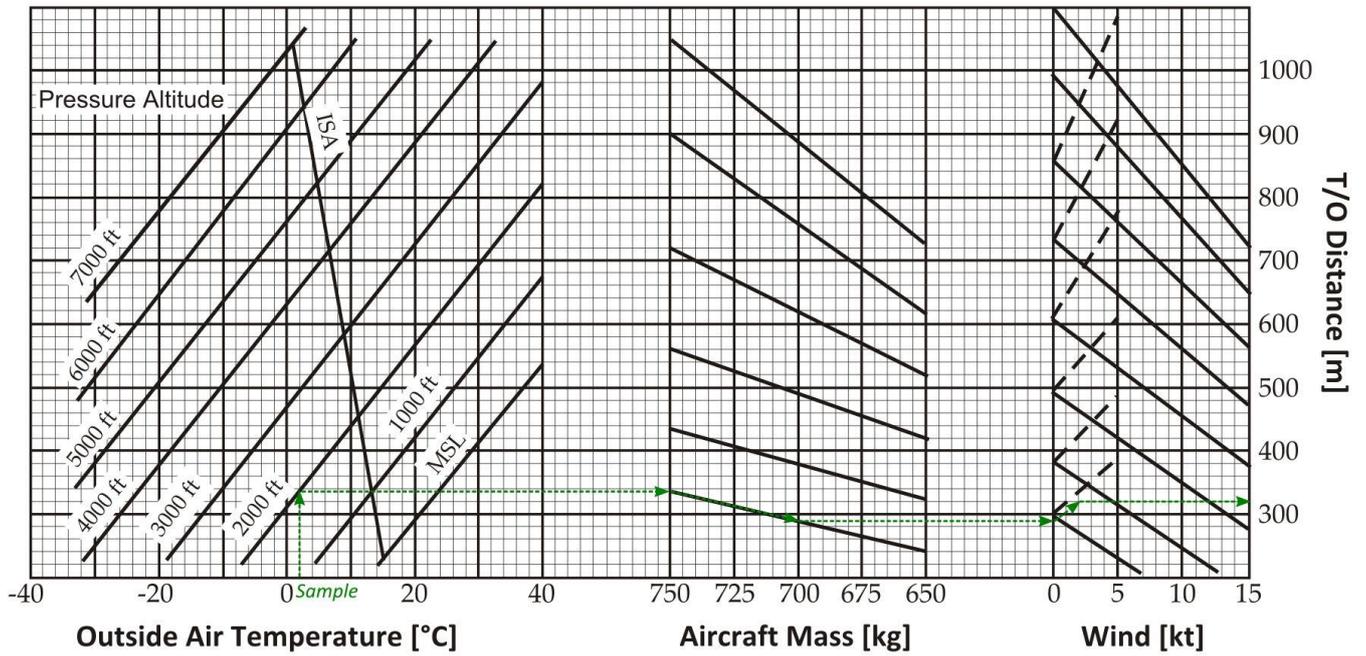
Anlage 3



Anlage 5

PPF-009

----- Tail wind
 ——— Head wind



Anlage 6

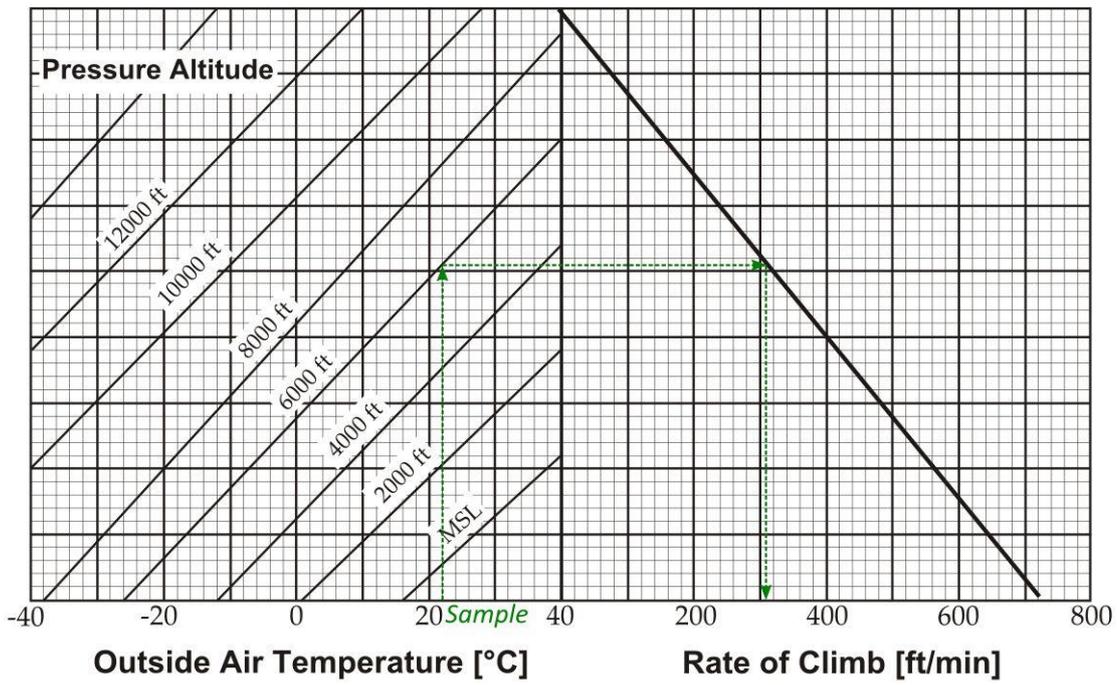
PFP-012**Performance**

Aircraft mass: 785 kg

Pressure Altitude [ft]	RPM	20°C below ISA			ISA			20°C above ISA		
		BHP [%]	TAS [kt]	FF [l/h]	BHP [%]	TAS [kt]	FF [l/h]	BHP [%]	TAS [kt]	FF [l/h]
2000	2500	73	110	25,1	70	108	24,0	67	107	21,9
	2400	69	103	22,8	65	102	21,7	62	102	19,5
	2300	62	97	20,5	59	95	19,7	56	94	18,4
	2200	54	90	18,3	51	88	17,4	48	86	16,7
	2100	48	85	16,9	45	84	15,6	41	84	14,9
4000	2500	70	109	24,1	68	106	22,1	66	105	21,5
	2400	66	100	21,4	63	102	19,6	61	100	19,3
	2300	58	94	19,5	56	95	18,4	55	93	18,1
	2200	51	89	17,6	47	85	16,7	43	82	16,2
	2100	46	84	15,5	41	83	15,1	38	79	14,6
6000	2600	70	110	23,9	67	105	22,5	66	103	21,0
	2500	64	98	20,5	61	97	19,6	60	96	19,1
	2400	56	92	18,7	55	91	18,3	54	90	18,1
	2300	48	87	16,9	46	85	16,5	44	81	15,9
	2200	44	83	15,1	40	80	15,0	39	79	14,5

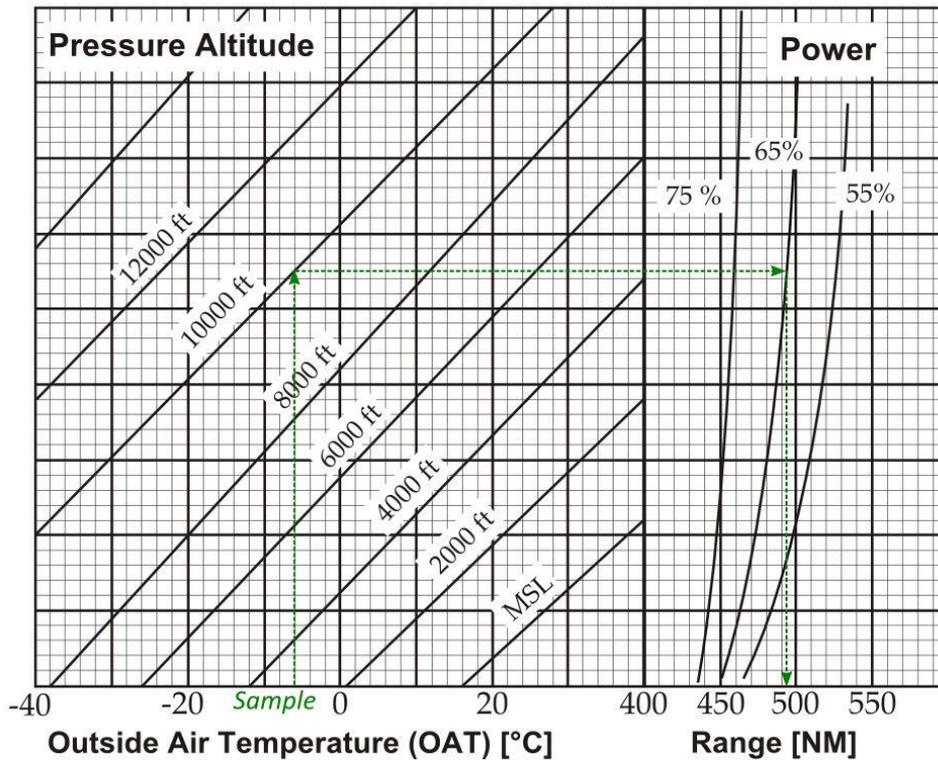
Anlage 7

PFP-011



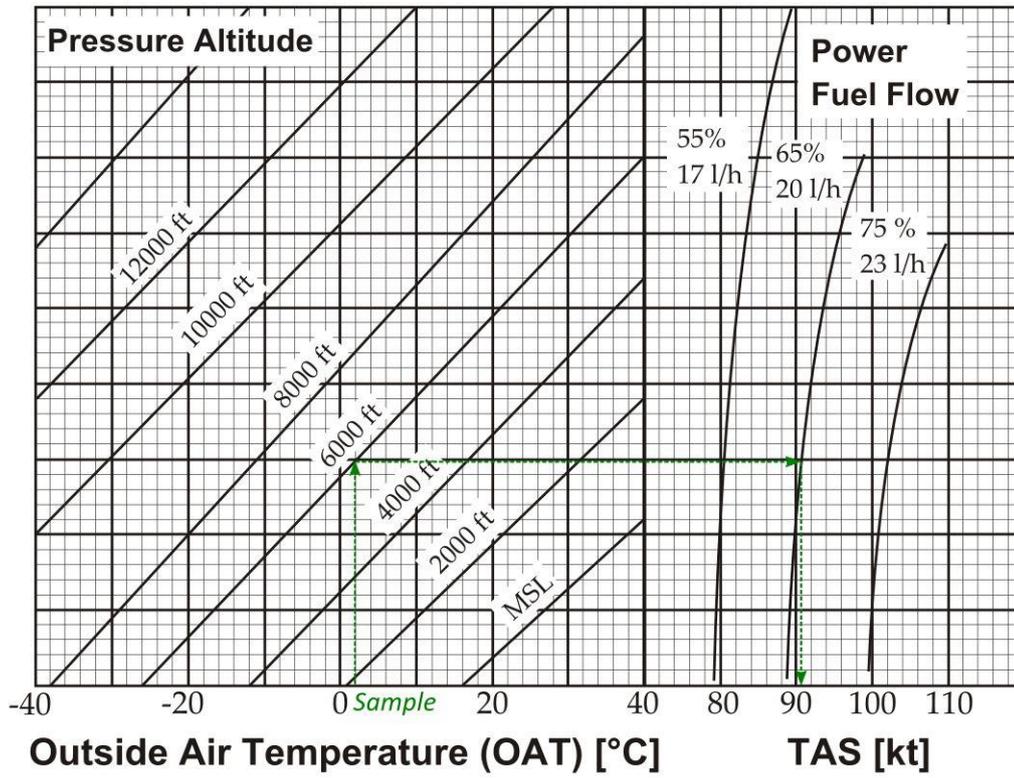
Anlage 8

PFP-013



Anlage 9

PFP-014



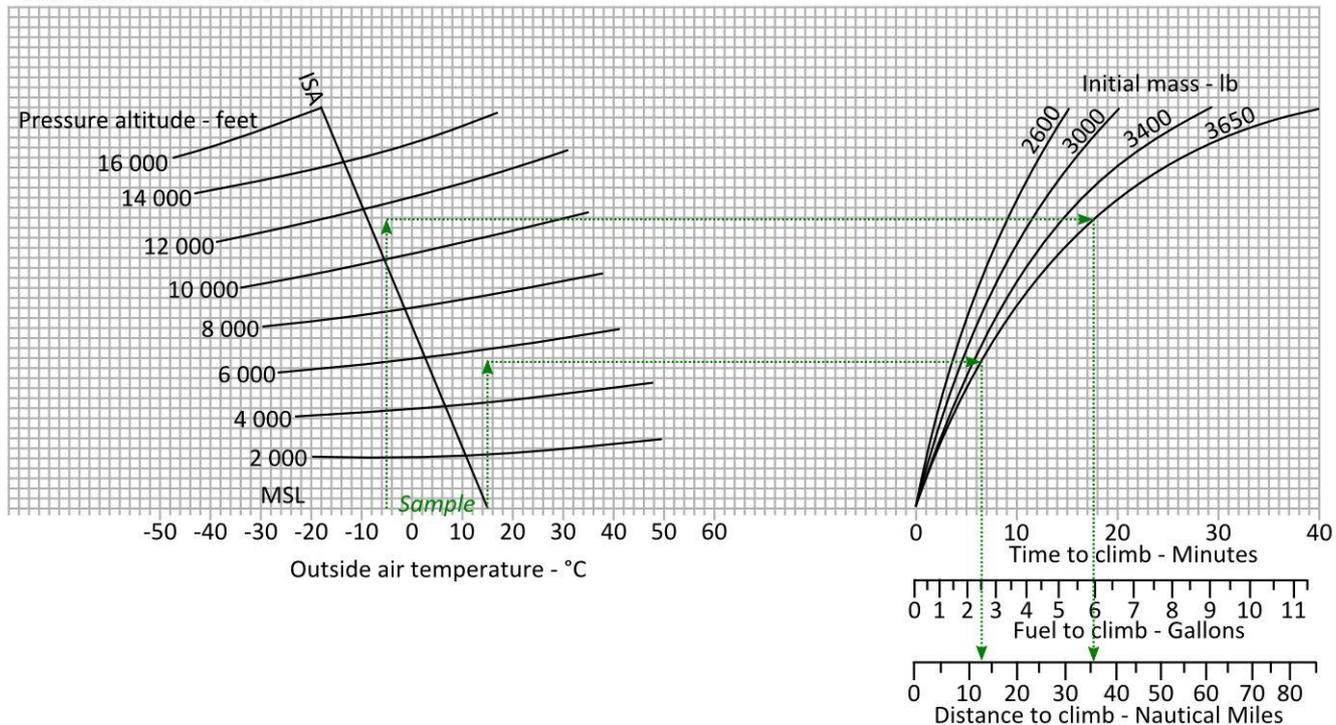
Anlage 10

Conditions:

POWER: Full throttle, 2700 RPM
 MIXTURE: Full rich
 WING FLAPS: Up
 COWL FLAPS: As required
 CLIMB SPEED: 110 kt all masses

PFP-023

TIME, FUEL AND DISTANCE TO CLIMB



Anlage 11

CAP 697

CAA JAR-FCL Examinations - Flight Planning Manual

Table 2.2.3 **23.0 in. Hg (or full throttle) @ 2,300 rpm**
 Off-peak EGT Cruise lean mixture @ cruise weight 3,400 lb

ISA Dev.	Press. Alt.	IOAT		Man. Press.	Fuel Flow		Airspeed	
		°C	°F		PPH	GPH	KIAS	KTAS
-20	0	-3	26	23.0	67.6	11.3	152	144
	2,000	-7	20	23.0	69.7	11.6	152	149
	4,000	-11	13	23.0	72.1	12.0	153	154
	6,000	-15	6	23.0	74.4	12.4	153	158
	8,000	-18	-1	22.4	73.8	12.3	150	160
	10,000	-23	-9	20.7	68.4	11.4	143	157
	12,000	-27	-16	19.2	63.8	10.6	135	153
	14,000	-31	-23	17.8	60.0	10.0	127	148
16,000	-35	-31	16.4	56.3	9.4	117	141	
0	0	17	62	23.0	65.4	10.9	147	145
	2,000	13	56	23.0	67.4	11.2	147	149
	4,000	9	49	23.0	69.4	11.6	148	154
	6,000	5	42	23.0	71.7	12.0	148	159
	8,000	2	35	22.4	71.1	11.9	145	160
	10,000	-3	27	20.7	66.2	11.0	137	157
	12,000	-7	20	19.2	61.8	10.3	129	152
	14,000	-11	13	17.8	58.5	9.8	120	146
16,000	-15	5	16.4	55.3	9.2	109	137	
+20	0	37	98	23.0	63.2	10.5	142	145
	2,000	33	92	23.0	65.1	10.9	143	149
	4,000	29	85	23.0	67.1	11.2	143	154
	6,000	25	78	23.0	69.0	11.5	142	158
	8,000	22	71	22.4	68.5	11.4	140	160
	10,000	17	63	20.7	64.0	10.7	132	156
	12,000	13	56	19.2	60.0	10.0	123	151
	14,000	9	48	17.8	57.1	9.5	113	142
16,000	-	-	-	-	-	-	-	

Figure 2.2 Recommended Cruise Power Settings (continued)

NOTE 1: Full-throttle manifold pressure settings are approximate.

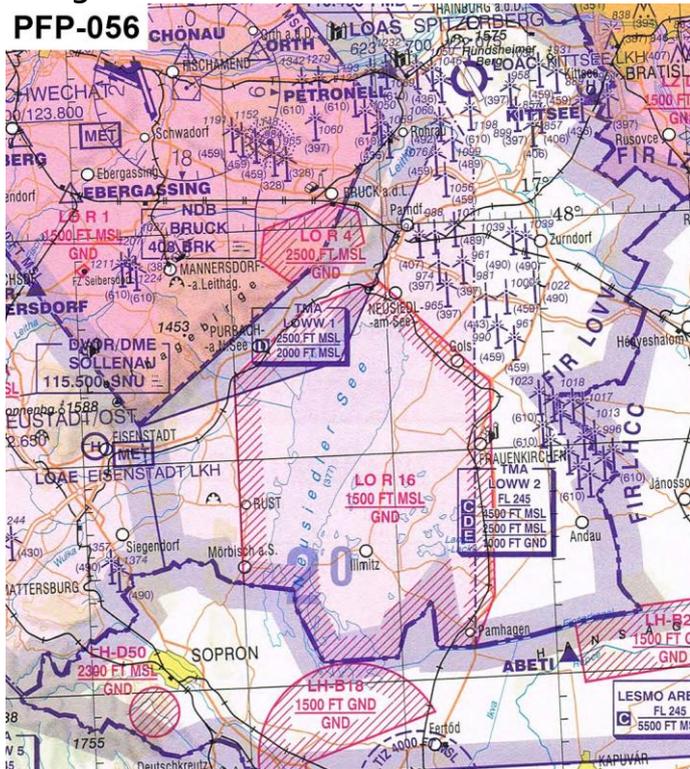
NOTE 2: Shaded areas represent operation with full throttle

NOTE 3: Fuel flows are to be used for flight planning. Lean

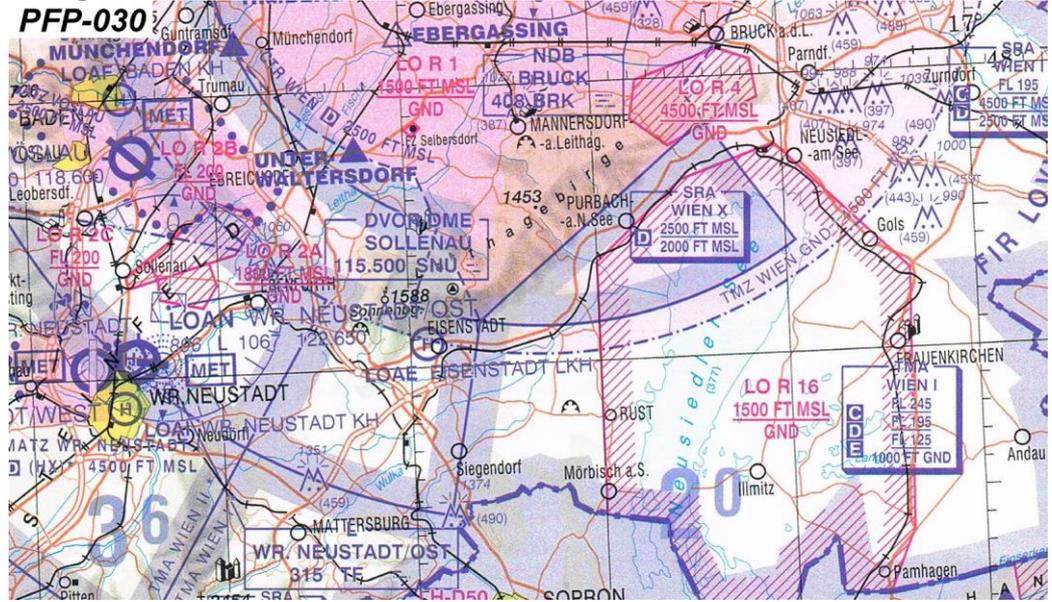


Anlage 12

PPF-056



Anlage 13



Anlage 14

PFP-051

Flugplan

3 Art der Meldung: (FPL)

7 Luftfahrzeugkennung: OEABC *

8 Flugregeln: V. VFR *

Art des Fluges: G. Allg. Zivilluftfahrt *

9 Anzahl: 1 *

LFZ Type: DV20 *

Wirbelschleppenkategorie: L - Leicht *

10 Ausrüstung: ORV / C *Auswählen

13 Abflugplatz: LOWK * [Grafische Suche](#)

E0BT (Zeit): 2000 *

E0BD (Datum): 2012/10/22 *

15 Geschwindigkeit: N - Knoten | 0100 *

Flughöhe: F - Flugfläche | 095 *

Flugstrecke:
 KFT GRZ PUBEG SNU

CFMU RTE
 (CFMU Flugstrecken)
[Suchen](#) (meine gespeicherten Flugstrecken)

16 Zielflugplatz: LOWW * [Grafische Suche](#)

Voraussichtliche Gesamtflugdauer: 0215 *

Ausweichflugplatz: LOAN [Grafische Suche](#)

2ter Ausweichflugplatz: [Grafische Suche](#)

18 Sonstige Angaben:

Füge 'IFPS RTE AMDT ACPT' ins Feld 18 automatisch ein

) Feld 18 Abkürzungen: - wählen -

Anlage 15



PFP-061

Anlage 16

A 

B 

C 

D 

PPF-062

Anlage 17

A 300

B (300)

C · 1737

D · 1737

PPF-063

AIRCADEMY



Part-FCL Question Bank

PPL(A)

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

(Excerpt)

80 – Aircraft General Knowledge



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1 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.)

- most inner part of the wing.
- thickest part of the wing.
- most outer part of the wing.
- thinnest part of the wing.

2 How is referred to a tubular steel construction with a non self-supporting skin? (1,00 P.)

- Grid construction
- Monocoque construction
- Honeycomb structure

- Semi-monocoque construction.

3 A construction made of frames and stringer with a supporting skin is called... (1,00 P.)

- Honeycomb structure.
- Wood- or mixed construction.
- Semi-monocoque construction.
- Grid construction.

4 Which wing configuration is shown in the attachment?

See figure (AGK-002) (1,00 P.)

- Strut-braced high wing
- Mid wing
- High wing
- Low wing



5 Which tail assembly is shown in the attachment?

See figure (AGK-003) (1,00 P.)

- V-tail
- Fuselage-mounted tail
- Cruciform tail
- T-tail



6 What are the major components of an aircraft's tail? (1,00 P.)

- Horizontal tail and vertical tail
- Steering wheel and pedals
- Ailerons and elevator

- Rudder and ailerons

7 Primary fuselage structures of wood or metal planes are usually made up by what components? (1,00 P.)

- Ribs, frames and covers

- Covers, stringers and forming parts
- Frames and stringer
- Girders, ribs and stringers

8 The sandwich structure consists of two... (1,00 P.)

- thin layers and a heavy core material.
- thick layers and a light core material.
- thin layers and a light core material.
- thick layers and a heavy core material.

9 Which constructional elements give the wing its profile shape? (1,00 P.)

- Ribs
- Planking
- Spar
- Tip

10 The load factor "n" describes the relationship between... (1,00 P.)

- drag and lift.
- lift and weight.

- thrust and drag.
- weight and thrust.

11 Which are the advantages of sandwich structures? (1,00 P.)

- High strength and good formability
- Good formability and high temperature durability
- High temperature durability and low weight
- Low weight, high stiffness, high stability, and high strength

12 Which of the stated materials shows the highest strength? (1,00 P.)

- Wood
- Aluminium
- Carbon fiber re-inforced plastic
- Magnesium

13 What needs to be considered if permissible limitations were exceeded? (1,00 P.)

- The helicopter must be inspected by a qualified engineer before the next flight
- The helicopter must be inspected by at least two pilots licensed on the type, one of whom must be the pilot in command
- The helicopter must be inspected by the pilot in command and if no defect is found, no appropriate entry in the aircraft technical log is necessary
- The helicopter must be subjected to a duplicate inspected by two engineers

14 Reasons for dents in the helicopter structure are... (1,00 P.)

- excessive engine rpm and cylinder defects.
- intense erosion or high wear.
- material defects or old colour.
- hard landing or excessive stress.

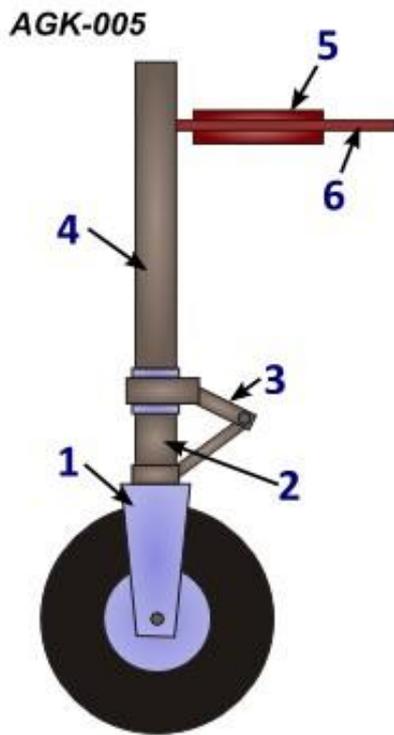
15 What kind of hydraulic oil is used in aeroplane systems today? (1,00 P.)

- Vegetable oil
- Bio-oil
- Mineral oil
- Synthetic oil

16 Number 1 on the gear designates the...

**See figure (AGK-005)
(1,00 P.)**

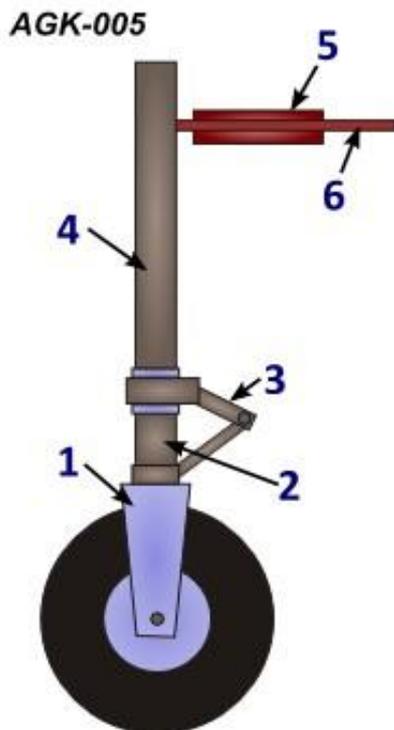
- fork.
- torque link.
- strut.
- inner shock absorber.



17 Number 2 on the gear designates the...

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

- fork.
- fixed outer cylinder.
- movable inner cylinder.
- torque link.



18 How is the nose or tail wheel usually controlled on small aircraft and motor gliders? (1,00 P.)

- By the steering wheel
- By the control column
- By the pedals
- By weight movement

19 Where is the brake system installed to slow the aircraft on ground? (1,00 P.)

- On the nose and main gear
- On the tail wheel
- Only on the nose gear
- Only on the main gear

20 What kind of control surface is connected with the nose wheel? (1,00 P.)

- Trim rudder
- Elevator
- Rudder
- Aileron

21 What is checked by the marking in the attachment?

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

- The correct position of the tire relative to the rim
- The correct position of the outer isolation layers
- The tread wear of the tire
- The operating pressure of the carcass



22 About how many axes does an aircraft move and how are these axes called? (1,00 P.)

- 3; vertical axis, lateral axis, longitudinal axis
- 4; optical axis, imaginary axis, sagged axis, axis of evil
- 4; vertical axis, lateral axis, longitudinal axis, axis of speed
- 3; x-axis, y-axis, z-axis

23 A movement around the longitudinal axis is primarily initiated by the... (1,00 P.)

- elevator.
- trim tab.
- ailerons.
- rudder.

24 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
- Electrically through fly-by-wire
- Manually through rods and control cables
- Power-assisted through hydraulic pumps or electric motors

- 25 What are the primary and the secondary effects of a rudder input to the left? (1,00 P.)**
- Primary: yaw to the right
Secondary: roll to the right
 - Primary: yaw to the left
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
- 26 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 rise
 - 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 decreased upward force, causing the aircraft's nose to drop
- 27 What happens to a helicopter during cruise when the stick is moved forward without other corrections? (1,00 P.)**
- The speed decreases and the sink rate increases
 - The speed decreases and the sink rate decreases
 - The speed increases and the sink rate increases
 - The speed increases and the sink rate decreases
- 28 Which of the following options states all primary flight controls of an aircraft? (1,00 P.)**
- All movable parts on the aircraft which aid in controlling the aircraft
 - Flaps, slats, speedbrakes
 - Elevator, rudder, aileron
 - Elevator, rudder, aileron, trim tabs, high-lift wing devices, power controls
- 29 What is the purpose of the secondary flight controls? (1,00 P.)**
- To improve the performance characteristics of an aircraft and relieve the pilot of excessive control forces
 - To constitute a backup system for the primary flight controls
 - To improve the turn characteristics of an aircraft in the low speed regime during approach and landing
 - To enable the pilot to control the aircraft's movements about its three axes

30 What is the purpose of a ground adjustable trim tab? (1,00 P.)

- It is set on the ground to correct an out-of-trim condition arising from the mass and balance situation of an aircraft
- It is a non-movable metal tab on a flight control which is adjusted on the ground to optimize the inflight characteristics of an aircraft
- It is used to optimize the handling characteristics of an aircraft during ground operations
- It is preset on the ground and further adjusted in flight to reduce the need to constantly re-trim the aircraft

31 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 up, the elevator moves up
- The trim tab moves up, the elevator moves down
- The trim tab moves down, the elevator moves up
- The trim tab moves down, the elevator moves down

32 When trimming an aircraft nose up, in which direction does the trim tab move? (1,00 P.)

- It moves up
- Depends on CG position
- It moves down
- In direction of rudder deflection

33 How does a balance tab move in relation to the flight control surface that it is coupled with? (1,00 P.)

- At an angle of 90°
- In the same direction
- At an angle of 45°
- In the opposite direction

34 The trim is used to... (1,00 P.)

- lock control elements.
- adapt the control force.
- move the centre of gravity.
- increase adverse yaw.

35 Which of the following are an aircraft's secondary flight controls? (1,00 P.)

- Elevator, rudder, aileron, trim tabs, high-lift wing devices, power controls
- Elevator, rudder, aileron
- All movable parts on the aircraft which aid in controlling the aircraft
- Wing flaps, leading edge devices, spoilers or speedbrakes, trim systems

36 What has to be considered during refueling? (1,00 P.)

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

37 The primer is... (1,00 P.)

- an auxiliary pump in the fuel system to facilitate engine starting.
- a valve in the fuel control system for automatic mixture regulation.
- a nozzle in the Venturi tube of a carburettor for atomising the fuel.
- a mechanical switch in the cockpit to engage the turbocharger.

38 What is the purpose of the tank ventilation? (1,00 P.)

- To prevent underpressure caused by fuel consumption
- To prevent water disposal during parking
- To distribute the fuel from one tank segment to the other during flight
- To prevent fuel spillage during refueling on the filler plug

39 An aeroplane's current supply is carried out by the:

- 1. Battery**
- 2. Generator**
- 3. Relay**
- 4. Circuit breaker (1,00 P.)**

- 3 and 4
- 2 and 3
- 1 and 2
- 1 and 4

40 What is the unit for voltage? (1,00 P.)

- Volt
- Watt
- Ampere
- Ohm

41 What is the unit for electrical power? (1,00 P.)

- Ampere
- Ohm
- Watt
- Volt

42 The voltmeter provides an indication of... (1,00 P.)

- the electric potential difference (voltage) in Volt [V].
- the electric current in a system in Ampère [A].
- the electrical power output in Watt [W].
- the electrical charge in Coulomb [C].

43 What is the reason for static dischargers on aircraft? (1,00 P.)

- To eliminate electrical interferences during intensive radio traffic
- To improve the quality of radio transmission in high altitudes
- To ensure grounding during refueling
- To discharge static charging during flight

44 What must be considered if the alternator fails in a helicopter? (1,00 P.)

- Only high power consumers will failing
- No change as long as the battery provides enough power
- All instruments and warning systems will fail
- The engine runs roughly and is prone to knocking

45 When using direct current, electrically driven flight instruments are marked with... (1,00 P.)

- "EL".
- "CO".
- "AL".
- "DC".

46 What devices can be affected by a failure of the electrical system in a helicopter? (1,00 P.)

- Radio equipment, navigation equipment and gyros
- Airspeed indicator, altimeter and artificial horizon
- Radio equipment, navigation equipment and magnetic compass
- Fuel quantity indication, radio equipment and altimeter

47 Which cylinder arrangement is commonly used on small aircrafts and motor gliders? (1,00 P.)

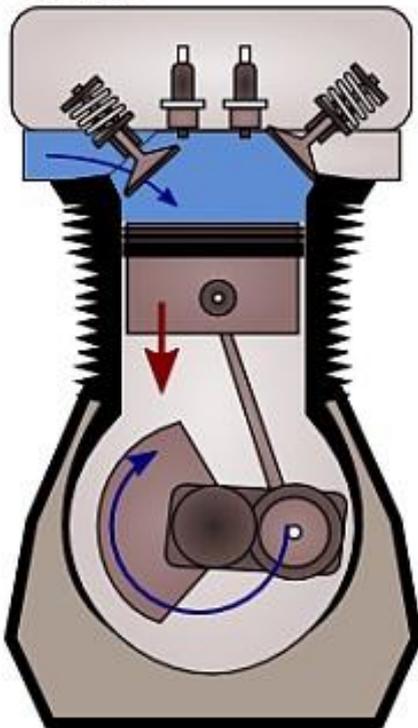
- V-type engine
- Radial engine
- In-line engine
- Horizontally opposed engine

48 Which part of the cycle of a four-stroke Otto engine can be seen in the attachment?

See figure (AGK-007) (1,00 P.)

- Third stroke - power
- Second stroke - compression
- First stroke - induction
- Fourth stroke - exhaust

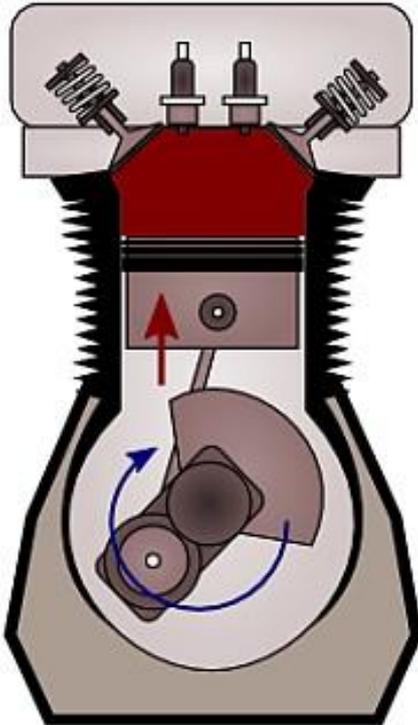
AGK-007



49 Which part of the cycle of a four-stroke Otto engine can be seen in the attachment?

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

- Second stroke - compression
- First stroke - induction
- Fourth stroke - exhaust
- Third stroke - power

AGK-008

- 50 What is likely to be the cause if the engine runs unusually rough while checking the magnetos? (1,00 P.)**
- Short circuit on the ground cable
 - Starter is faulty
 - Sparking plug is defective
 - Ignition switch is faulty
- 51 The highest absorption of humidity in fuel can be observed in which situation? (1,00 P.)**
- Almost empty tanks
 - During parking on wet grass areas
 - During parking on cold aprons
 - Almost full tanks
- 52 Where does the condensation water converge in the tank? (1,00 P.)**
- It is mixed with the fuel
 - At the lowest position
 - Near the cap of the tank
 - It floats on the fuel

53 What does the octane rating or fuel grade describe? (1,00 P.)

- Ignition timing
- Flame front speed
- Combustion temperature
- Anti-knock rating

54 Which colour does Avgas 100 LL have? (1,00 P.)

- Yellow
- Green
- Red
- Blue

55 What is the direct influence by switching on the carburettor heating on fixed propeller engines during engine run-up? (1,00 P.)

- Angle of attack decreases
- RPM decreases
- RPM increases
- Angle of attack increases

56 What is the major task of a carburettor? (1,00 P.)

- To produce an ignitable air/fuel mixture
- To control the aircraft's speed through the throttle valve
- To provide additional fuel to cool the engine
- To pump fuel from the tanks into the cylinder

57 In which phase of flight must the carburettor heating be switched off although carburettor icing might be expected? (1,00 P.)

- During take-off
- During taxi
- During climb
- During cruise

58 In which outside air temperature is icing most likely? (1,00 P.)

- Between -5° C and +20° C
- Between -10° C and +10° C
- Between -20° C and +5° C
- Between -15° C and 0° C

59 What is the task of cooling fins on air-cooled engine cylinders? (1,00 P.)

- Cooling of the cylinder surrounding airflow and forwarding to hotter engine parts
- Increasing the airflow thus improving cooling of cylinder parts
- Leading the airflow to parts designated to be cooled
- Quick heat transfer to the surrounding air flow by expanding the surface

60 Cylinder head temperature indication relates to... (1,00 P.)

- all Cylinders.
- the average of all cylinders.
- a random cylinder.
- the critical cylinder.

61 What happens during oil filter clogging? (1,00 P.)

- A bypass valve opens thus enabling the circulation to continue, debris will be filtered by an alternate filter
- The oil circulation will end after 15 minutes so that a proper engine run will not be guaranteed
- A bypass valve opens thus enabling the circulation to continue, debris will not be filtered
- The oil circulation will end after 30 minutes so that a proper engine run will not be guaranteed

62 How should an Otto engine be shut down? (1,00 P.)

- By shutting down the generator
- By completely leaning the mixture
- By moving the propeller to the feathered position
- By closing the throttle lever completely

63 Piston engines of helicopters have... (1,00 P.)

- two coupled ignition systems.
- one electrical ignition system.
- two independent ignition systems.
- one magneto ignition system.

64 How do you call fuel mixtures with a high amount of fuel? (1,00 P.)

- Rich
- Lean
- Empty
- Full

65 The angle indicated by arrow number 1 shows the propeller's...

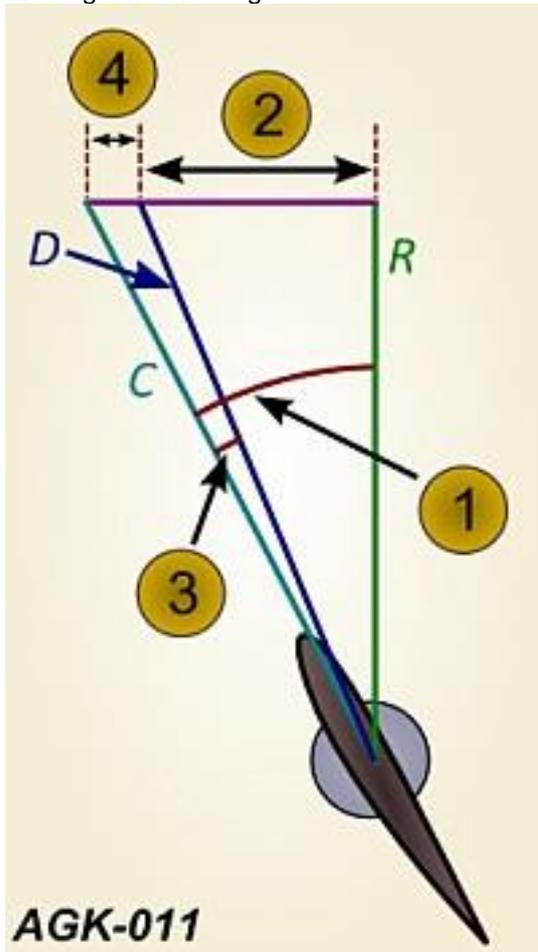
See figure (AGK-011)

D: Direction of air flow

C: Chord line

R: Direction of rotation (1,00 P.)

- aerodynamic wing twist.
- angle of incidence.
- angle of attack.
- geometric wing twist.



66 How should a power increase be executed on a constant-speed propeller, provided that no other procedure is described in the flight manual? (1,00 P.)

- 1) Increase RPM
2) Increase manifold pressure
- 1) Increase manifold pressure
2) Increase RPM
- 1) Decrease manifold pressure
2) Increase RPM
- 1) Decrease RPM
2) Increase manifold pressure

- 67 How should a power decrease be executed on a constant-speed propeller, provided that no other procedure is described in the flight manual? (1,00 P.)**
- 1) Decrease RPM
2) Increase manifold pressure
 - 1) Decrease manifold pressure
2) Decrease RPM
 - 1) Decrease manifold pressure
2) Increase RPM
 - 1) Decrease RPM
2) Decrease manifold pressure
- 68 With increasing altitude and unchanged mixture setting, the air/fuel mixture... (1,00 P.)**
- becomes liquid.
 - becomes more lean.
 - stays constant.
 - becomes richer.
- 69 With increasing altitude, the power of a carburettor engine... (1,00 P.)**
- decreases.
 - remains constant.
 - first decreases, from 5000 ft on increases.
 - increases.
- 70 During ignition check the ignition is switched to OFF for a short moment and subsequently back to BOTH.**
- What happens to the RPM if the ignition system is properly grounded? (1,00 P.)**
- The RPM increases once switched to OFF and resumes a value below the previous one when switched back to BOTH
 - The RPM decreases once switched to OFF and resumes a value below the previous one when switched back to BOTH
 - The RPM decreases once switched to OFF and resumes the previous value when switched back to BOTH
 - The RPM increases once switched to OFF and resumes the previous value when switched back to BOTH
- 71 The fuselage structure may be damaged by... (1,00 P.)**
- neutralizing stick forces according to actual flight state.
 - exceeding the manoeuvring speed in heavy gusts.
 - stall after exceeding the maximum angle of attack.
 - airspeed decreasing below a certain value.

72 What values are usually marked with a red line on instrument displays? (1,00 P.)

- Operational areas
- Caution areas
- Operational limits
- Recommended areas

73 Which gauges involve a measurement of temperature? (1,00 P.)

- Engine lubricant, exhaust gas, outside air, cabin air, directional gyro
- Engine oil, cylinder head, exhaust gas, altimeter, airspeed indicator, vertical speed indicator
- Engine lubricant, cylinder head, exhaust gas, suction, outside air, cabin air
- Engine lubricant, engine cooling fluid, cylinder head, exhaust gas, outside air, cabin air

74 Fuel quantity in small aircraft is most commonly measured through a level sensor.**The European Certification Specifications CS 23 require that... (1,00 P.)**

- at least one fuel quantity indicator must be available to indicate the total amount of fuel aboard an aircraft. This Indicator must be calibrated adequately to indicate the correct amount of fuel during all phases of flight.
- if no fuel quantity indicator is available to the pilot in flight, the pilot must check the fuel quantity before commencing the flight and recalculate the remaining fuel on board in regular intervals during the flight.
- a fuel quantity indicator must be available for each tank and the indicator must be calibrated to read "zero" during level flight when the quantity of fuel remaining in the tank is equal to the unusable fuel supply.
- if the fuel indicator fails, the pilot must land at the next available airport.

75 Which of the mentioned cockpit instruments is connected to the pitot tube? (1,00 P.)

- Vertical speed indicator
- Direct-reading compass
- Airspeed indicator
- Altimeter

76 Which cockpit instruments are connected to the static port? (1,00 P.)

- Altimeter, vertical speed indicator, airspeed indicator
- Airspeed indicator, altimeter, direct-reading compass
- Altimeter, slip indicator, navigational computer
- Airspeed indicator, direct-reading compass, slip indicator

77 The term "static pressure" is defined as pressure... (1,00 P.)

- inside the airplane cabin.
- of undisturbed airflow.
- resulting from orderly flow of air particles.
- sensed by the pitot tube.

78 What does the dynamic pressure depend directly on? (1,00 P.)

- Lift- and drag coefficient
- Air density and airflow speed squared
- Air pressure and air temperature

- Air density and lift coefficient

79 Which of the instruments listed below obtain their readings through pressure measurement? (1,00 P.)

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

80 The Pitot / static system is required to... (1,00 P.)

- prevent icing of the Pitot tube.
- measure total and static air pressure.
- prevent potential static buildup on the aircraft.
- correct the reading of the airspeed indicator to zero when the aircraft is static on the ground.

81 Which pressure is sensed by the Pitot tube? (1,00 P.)

- Dynamic air pressure
- Cabin air pressure
- Total air pressure
- Static air pressure

82 QFE is the... (1,00 P.)

- altitude above the reference pressure level 1013.25 hPa.
- magnetic bearing to a station.
- barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).
- barometric pressure at a reference datum, typically the runway threshold of an airfield.

83 QNE is the... (1,00 P.)

- altitude above the reference pressure level 1013.25 hPa.
- barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).
- magnetic bearing to a station.
- barometric pressure at a reference datum, typically the runway threshold of an airfield.

84 Which is the purpose of the altimeter subscale? (1,00 P.)

- To adjust the altimeter reading for non-standard temperature
- To correct the altimeter reading for system errors
- To reference the altimeter reading to a predetermined level such as mean sea level, aerodrome level or pressure level 1013.25 hPa
- To set the reference level for the altitude decoder of the transponder

85 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 higher than actual pressure, the indication is too low. This may lead to much greater heights above 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 lower than actual pressure, the indication is too low. This may lead to much closer proximity to the ground than intended

86 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
- Zero
- 80 m less than before
- 80 m more than before

87 The altimeter's reference scale is set to airfield pressure (QFE).**What indication is shown during the flight? (1,00 P.)**

- Height above airfield
- Pressure altitude
- Altitude above MSL
- Airfield elevation

88 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.
- a blockage of the Pitot tube by ice, freezing the altimeter indication to its present value.
- an altitude indication which is too low.
- an altitude indication which is too high.

89 A flight level is a... (1,00 P.)

- true altitude.
- pressure altitude.
- density altitude.
- altitude above ground.

90 A true altitude is... (1,00 P.)

- 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.
- an altitude above mean sea level corrected for non-standard temperature.

91 During a flight in colder-than-ISA air the indicated altitude is... (1,00 P.)

- lower than the true altitude.
- equal to the true altitude.
- higher than the true altitude.
- equal to the standard altitude.

92 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.)

- equal to the true altitude.
- higher than the true altitude.
- lower than the true altitude.
- equal to the standard atmosphere.

93 Which instrument can be affected by the hysteresis error? (1,00 P.)

- Tachometer
- Altimeter
- Vertical speed indicator
- Direct reading compass

- 94 The measurement of altitude is based on the change of the... (1,00 P.)**
- differential pressure.
 - total pressure.
 - dynamic pressure.
 - static pressure.
- 95 When is it necessary to adjust the pressure in the reference scale of an altimeter? (1,00 P.)**
- After maintenance has been finished
 - Before every flight and during cross country flights
 - Once a month before flight operation
 - Every day before the first flight
- 96 Which of the following options states the working principle of a vertical speed indicator? (1,00 P.)**
- Measuring the present static air pressure and comparing it to the static air pressure inside a reservoir
 - Total air pressure is measured and compared to static pressure
 - Static air pressure is measured and compared against a vacuum
 - Measuring the vertical acceleration through the displacement of a gimbal-mounted mass
- 97 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 static pressure and the static pressure of a previous moment.
 - the present total pressure and the total pressure of a previous moment.
 - the present dynamic pressure and the dynamic pressure of a previous moment.
- 98 A vertical speed indicator connected to a too big equalizing tank results in... (1,00 P.)**
- indication too low
 - no indication
 - indication too high
 - mechanical overload

99 A vertical speed indicator measures the difference between... (1,00 P.)

- instantaneous static pressure and previous static pressure.
- total pressure and static pressure.
- instantaneous total pressure and previous total pressure.

- dynamic pressure and total pressure.

100 Calibrated airspeed (CAS) equals... (1,00 P.)

- true airspeed (TAS) corrected for wind.
- ground speed (GS) corrected for instrument and position error.
- indicated airspeed (IAS) corrected for instrument and position error.
- equivalent airspeed (EAS) corrected for altitude.

101 At higher altitudes, true airspeed (TAS) tends to be higher than calibrated airspeed (CAS).**A rough estimate of the TAS can be obtained by... (1,00 P.)**

- subtracting 10 % of the CAS for every 1000 m altitude.
- subtracting 2 % of the CAS for every 1000 ft altitude.
- adding 2 % of the CAS for every 1000 ft altitude.
- adding 10 % of the CAS for every 1000 ft altitude.

102 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.)**

- 130 kt
- 30 kt
- 70 kt
- 100 kt

103 Which of the following states the working principle of an airspeed indicator? (1,00 P.)

- Dynamic air pressure is measured by the Pitot tube and converted into a speed indication by the airspeed indicator
- Static air pressure is measured and compared against a vacuum.
- 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

104 What is necessary for the determination of speed (IAS) by the airspeed indicator? (1,00 P.)

- The difference between the total pressure and the dynamic 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 standard pressure and the total pressure

105 The airspeed indicator is unservicable.

The airplane may only be operated... (1,00 P.)

- when a GPS with speed indication is used during flight.
- when the airspeed indicator is fully functional again.
- if only airfield patterns are flown.
- if no maintenance organisation is around.

106 What is the meaning of the white arc on the airspeed indicator? (1,00 P.)

- Speed range in bumpy air
- Speed range in smooth air
- Speed range for extended flaps
- Speed range not to exceed

107 What is the meaning of the red range on the airspeed indicator? (1,00 P.)

- Speed which must not be exceeded regardless of circumstances
- Speed which must not be exceeded with flaps extended
- Speed which must not be exceeded in turns with more than 45° bank
- Speed which must not be exceeded within bumpy air

108 The Caution Area is marked on an airspeed indicator by what color? (1,00 P.)

- Green
- Red
- White
- Yellow

109 The term "inclination" is defined as... (1,00 P.)

- angle between earth's magnetic field lines and horizontal plane.
- deviation induced by electrical fields.

- angle between airplane's longitudinal axis and true north.
- angle between magnetic and true north.

110 The compass error caused by the aircraft's magnetic field is called... (1,00 P.)

- deviation.
- declination.
- variation.
- inclination.

111 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
- Variation, turning and acceleration errors
- Gravity and magnetism
- Deviation, turning and acceleration errors

112 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.)

- 030°
- 330°
- 360°
- 270°

113 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°
- 300°
- 360°
- 270°

114 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.)

- 180°.
- 210°.
- 360°.
- 150°.

115 What is a cause for the dip error on the direct-reading compass? (1,00 P.)

- Deviation in the cockpit
- Acceleration of the airplane
- Inclination of earth's magnetic field lines
- Temperature variations

116 What behaviour is shown by a rotating gyro in space? (1,00 P.)

- It swings from east to west like a pendulum
- It moves in circles with a steadily decreasing radius
- It tends to maintain its position in space
- It moves in accordance with the body surrounding it

117 A gyro which is rotating in space responds to forces being applied to it by an evasive movement... (1,00 P.)

- at an angle of 180° to the force being applied.
- at an angle of 90° to the force being applied.
- at an angle of 45° to the force being applied.
- in a northern direction.

118 The bank angle of a 2-minutes circle depends on the... (1,00 P.)

- TAS.
- IAS.
- Ground speed.
- CAS.

119 A turn and bank (or turn and slip) coordinator provides information regarding... (1,00 P.)

- the rate of turn and bank angle of the aircraft.
- the pitch and bank angle of the aircraft.
- the rate of turn and coordination, i.e. slip or skid, of the turn.
- the coordination of the turn and slip angle.

120 What does the slip indicator show? (1,00 P.)

- Vertical to horizon
- Rate of turn
- Apparent vertical
- Airplane's bank

121 The slip indicator's ball (apparent vertical) has moved to the right during a right turn.

By what actions may the ball be led back to middle position? (1,00 P.)

- Reduce bank, increase rate of turn
- Increase bank, increase rate of turn
- Reduce speed, increase bank
- Reduce rate of turn, reduce bank

122 Which light colour advises the pilot to the condition "corrective action may be required in the future"? (1,00 P.)

- Green
- Amber (orange)
- Blue
- Red

123 An attitude director indicator (ADI) combines the information provided by... (1,00 P.)

- the attitude indicator and the flight director.
- the attitude indicator and the radio magnetic indicator.
- the directional gyro and the rate gyro.
- the attitude indicator and the relative bearing indicator.

124 What does the abbreviation HSI stand for? (1,00 P.)

- Horizontal Situation Indicator
- Horizontal Slip Indicator
- Horrifying Steep Inclination
- Hybernating System Indication

125 A horizontal situation indicator (HSI) combines the information provided by... (1,00 P.)

- the attitude indicator and the flight director.
- the directional gyro and the flight director.
- the rate gyro and the slip indicator.
- the directional gyro and the VHF navigation receiver.

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(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 magnetic south pole.
- geographic North Pole and on the geographic South Pole.
- magnetic 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 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° 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° to the plane of the equator

3 Which approximate, geometrical form describes the shape of the Earth best for navigation systems? (1,00 P.)

- Perfect sphere
- Ellipsoid
- Sphere of ecliptical shape
- Flat plate

4 Which statement about a rhumb line is correct? (1,00 P.)

- A rhumb line is a great circle intersecting the the equator with 45° angle.
- The center of a complete cycle of a rhumb line is always the Earth's center.
- 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.

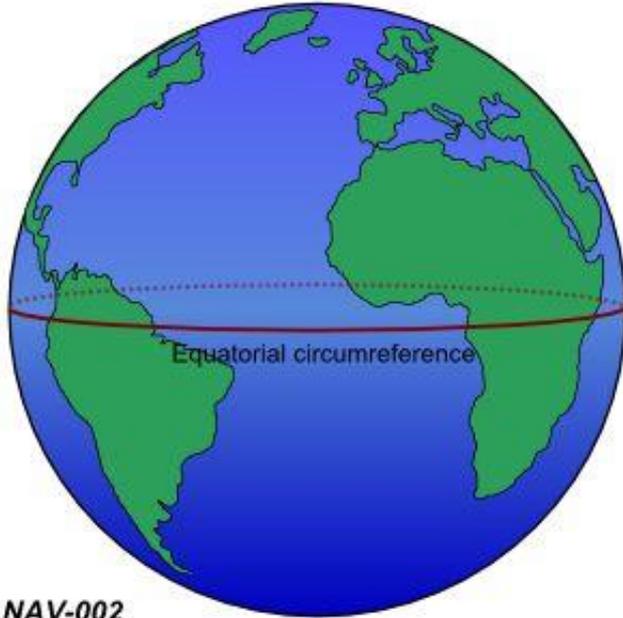
5 The shortest distance between two points on Earth is represented by a part of... (1,00 P.)

- a small circle.
- a great circle.
- a rhumb line.
- a parallel of latitude.

6 The circumference of the Earth at the equator is approximately...

See figure (NAV-002) (1,00 P.)

- 21600 NM.
- 10800 km.
- 12800 km.
- 40000 NM.



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.)

- $05,19^{\circ}$
- $20^{\circ}28'00''$
- $20,28^{\circ}$
- $05^{\circ}19'00''$

8 Where are the two polar circles? (1,00 P.)

- At a latitude of 20.5°S and 20.5°N
- 23.5° north and south of the poles
- 20.5° south of the poles
- 23.5° north and south of the equator

9 What is the distance between the parallels of latitude 48°N and 49°N along a meridian line? (1,00 P.)

- 111 NM
- 60 NM
- 60 km
- 110 NM

- 10 What distance corresponds to one degree difference in latitude along any degree of longitude? (1,00 P.)**
- 60 NM
 - 30 NM
 - 60 km
 - 1 NM
- 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.)**
- 49°50'27"N
 - 43°50'27"N
 - 53°50'27"N
 - 51°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 km
 - 111 NM
 - 1 NM
 - 60 NM
- 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.)**
- 216 NM
 - 120 NM
 - 60 NM
 - 400 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.)

- 1:00 h
- 0:40 h
- 1:20 h
- 0:20 h

16 What is the difference in time when the sun moves 10° of longitude? (1,00 P.)

- 0:30 h
- 0:04 h
- 1:00 h
- 0:40 h

17 The sun moves 10° of longitude. What is the difference in time? (1,00 P.)

- 0.33 h
- 0.66 h
- 0.4 h
- 1 h

18 With Central European Summer Time (CEST) given as UTC+2, what UTC time corresponds to 1600 CEST? (1,00 P.)

- 1500 UTC.
- 1600 UTC.
- 1400 UTC.
- 1700 UTC.

19 UTC is... (1,00 P.)

- a zonal time.
- local mean time at a specific point on Earth.
- a local time in Central Europe.
- 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.)

- 1700 UTC.
- 1500 UTC.
- 1600 UTC.
- 1800 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 and sunset are about 14 minutes earlier 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 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 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 6 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 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.

**23 Given:
WCA: -012°; TH: 125°; MC: 139°; DEV: 002°E**

**What are: TC, MH und CH?
(2,00 P.)**

- TC: 113°.
MH: 139°.
CH: 129°.
- TC: 113°.
MH: 127°.
CH: 129°.
- TC: 137°.
MH: 127°.
CH: 125°.
- TC: 137°.
MH: 139°.
CH: 125°.

- 24 Given:**
TC: 179°; WCA: -12°; VAR: 004° E; DEV: +002°

What are MH and MC?
(1,00 P.)

- MH: 163°.
MC: 175°.
- MH: 167°.
MC: 175°.
- MH: 163°.
MC: 161°.
- MH: 167°.
MC: 161°.

- 25 The angle between the true course and the true heading is called... (1,00 P.)**

- inclination.
- WCA.
- variation.
- deviation.

- 26 The angle between the magnetic course and the true course is called... (1,00 P.)**

- inclination.
- deviation.
- WCA.
- variation.

- 27 The term 'magnetic course' (MC) is defined as... (1,00 P.)**

- 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.
- the angle between magnetic north and the course line.

- 28 The term 'True Course' (TC) is defined as... (1,00 P.)**

- 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.
- the angle between magnetic north and the course line.

- 29 Given:**
TC: 183°; WCA: +011°; MH: 198°; CH: 200°

What are TH and VAR?
(2,00 P.)

- TH: 172°. VAR: 004° W
- TH: 194°. VAR: 004° E
- TH: 194°. VAR: 004° W
- TH: 172°. VAR: 004° E

- 30 Given:**
TC: 183°; WCA: +011°; MH: 198°; CH: 200°

What are the TH and the DEV?
(2,00 P.)

- TH: 172°. DEV: +002°.
- TH: 194°. DEV: -002°.
- TH: 172°. DEV: -002°.
- TH: 194°. 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° W. DEV: +002°.
- VAR: 004° W. DEV: -002°.
- VAR: 004° E. 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.)

- WCA.
- inclination.
- variation.
- deviation.

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 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

- The angle between the aircraft heading and magnetic north

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.)

- deviation.
- inclination.
- heading.
- variation.

36 The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the... (1,00 P.)

- variation of 0°.
- deviation of 0°.
- inclination of 0°.
- heading of 0°.

37 Which are the official basic units for horizontal distances used in aeronautical navigation and their abbreviations? (1,00 P.)

- Yards (yd), meters (m)
- Nautical miles (NM), kilometers (km)

- Land miles (SM), sea miles (NM)
- feet (ft), inches (in)

38 1000 ft equal... (1,00 P.)

- 30 m.
- 300 m.
- 3000 m.
- 30 km.

39 5500 m equal... (1,00 P.)

- 18000 ft.
- 10000 ft.
- 30000 ft.
- 7500 ft.

40 Which of the items on the attached checklist are related to the direct reading compass?

See annex (NAV-004) (1,00 P.)

Siehe Anlage 1

- "Turning Instruments" and "Circuit Breaker"
- "Turning Instruments" only
- "Gyro" and "Turning Instruments"
- "Gyro" and "Circuit Breaker"

41 What could be a reason for changing the runway indicators at aerodromes (e.g. from runway 06 to runway 07)? (1,00 P.)

- The direction of the approach path has changed
- 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

42 Electronic devices on board of an aeroplane have influence on the... (1,00 P.)

- direct reading compass.
- turn coordinator.
- airspeed indicator.
- artificial horizon.

43 Which are the properties of a Mercator chart? (1,00 P.)

- The scale is constant, 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
- The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines

44 How are rhumb lines and great circles depicted on a direct Mercator chart? (1,00 P.)

- Rhumb lines: straight lines
Great circles: curved lines
- Rhumb lines: curved lines
Great circles: curved lines
- Rhumb lines: straight lines
Great circles: straight lines
- Rhumb lines: curved lines
Great circles: straight lines

45 Which are the properties of a Lambert conformal chart? (1,00 P.)

- The chart is conformal and an equal-area projection
- Great circles are depicted as straight lines and the chart is an equal-area projection
- Rhumb lines are depicted as straight lines and the chart is conformal
- The chart is conformal and nearly true to scale

46 Which lines have to be used by the pilot to determine the aircraft's position? (1,00 P.)

- True bearings (QTE)
- Relative bearings (RB)
- Magnetic bearings (QDR)
- Magnetic headings (MH)

- 47 What is the radial 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 2

- 248°
- 068°
- 024°
- 204°

- 48 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 2

- 42 km
- 24 NM
- 24 km
- 42 NM

- 49 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 : 500000.
- 1 : 1000000.
- 1 : 250000.
- 1 : 2000000.

- 50 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 : 500000
- 1 : 1500000
- 1 : 150000
- 1 : 1 000000

- 51 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 2

- 235°
- 061°
- 055°
- 241°

- 52 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 2

- 78 km
- 46 km
- 46 NM
- 78 NM

- 53 Given the following information, what is the aircraft position at the cross bearing?
VOR Hamburg (HAM) (53°41'N, 010°12'E): Radial 119°
VOR Brünkendorf (BKD) (53°02'N, 011°33'E): Radial 320°

See annex (NAV-031) (1,00 P.)

Siehe Anlage 2

- 54°40'N, 12°50'E
- 53°20'N, 11°10'E
- 52°20'N, 10°10'E
- 52°10'N, 10°20'E

- 54 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°.
- 245°.
- 007°.
- 252°.

55 An aircraft is flying with an indicated airspeed (IAS) of 150 kt at 8000 ft MSL.

According to the rule of thumb, the true airspeed (TAS) equals... (1,00 P.)

- 142 kt.
- 174 kt.
- 150 kt.
- 208 kt.

56 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.)

- 1105 UTC.
- 1115 UTC.
- 1052 UTC.
- 1005 UTC.

57 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.)

- 1320 UTC
- 1430 UTC
- 1356 UTC
- 1330 UTC

- 58 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.)

- 1029 UTC.
- 1045 UTC.
- 1129 UTC.
- 1146 UTC.

- 59 An aircraft travels 100 km in 56 minutes.**

The ground speed (GS) equals...

(1,00 P.)

- 107 km/h.
- 93 kt.
- 58 km/h.
- 198 kt.

- 60 An aircraft travels 110 NM within 01:25.**

The ground speed (GS) equals...

(1,00 P.)

- 160 km/h.
- 86 kt.
- 78 kt.
- 120 km/h.

- 61 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
 - 0:34 h
 - 1:34 h
- 62 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.)**
- 1 h 12 min
 - 2 h 11 min
 - 0 h 50 min
 - 1 h 32 min
- 63 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.)**
- 202 NM.
 - 693 NM.
 - 435 NM.
 - 375 NM.
- 64 Given:**
- Calibrated airspeed (CAS): 155 kt.**
Flight level (FL) 80.
Outside air temperature (OAT): +15° C.
- The true airspeed (TAS) equals... (1,00 P.)**
- 134 kts.
 - 155 kts.
 - 180 kts.
 - 170 kts.

- 65 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.)

- 7000 ft.
- 6250 ft.
- 6750 ft.
- 6500 ft.

- 66 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.
- 6500 ft.
- 7000 ft.
- 6750 ft.

- 67 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.)

- 7000 ft.
- 6750 ft.
- 6250 ft.
- 6500 ft.

- 68 An aircraft is following a true heading (TH) of 250° at a ground speed (GS) of 120 kt. The wind vector is 010°/30 kt.**

The true course (TC) equals... (1,00 P.)

- 237°.
- 257°.
- 263°.
- 243°.

- 69 Given:**
True course: 255°.
TAS: 100 kt.
Wind: 200°/10 kt.

The true heading equals... (1,00 P.)

- 275°.
- 265°.
- 245°.
- 250°.

- 70 Given:**
True course: 165°.
TAS: 90 kt.
Wind: 130°/20 kt.
Distance: 153 NM.

The true heading equals... (1,00 P.)

- 126°.
- 165°.
- 152°.
- 158°.

- 71 Given:**
Ground speed (GS): 160 kt.
True course (TC): 177°.
Wind vector (W/WS): 140°/20 kt.

The true airspeed (TAS) equals... (1,00 P.)

- 144 kt.
- 182 kt.
- 138 kt.
- 176 kt.

- 72 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.)

- 173°.
- 184°.
- 169°.
- 180°.

- 73 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.)

- 170 kt.
- 185 kt.
- 255 kt.
- 135 kt.

- 74 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.
- 155 kt.
- 159 kt.
- 168 kt.

- 75 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.)

- 9°
- + 5°
- + 11°
- 7°

- 76 Given:
True course: 270°.
TAS: 100 kt.
Wind: 090°/25 kt.
Distance: 100 NM.
The ground speed (GS) equals... (1,00 P.)

- 125 kt.
- 120 kt.
- 117 kt.
- 131 kt.

- 77 Given:
True course: 270°.
TAS: 100 kt.
Wind: 090°/25 kt.
Distance: 100 NM.

The flight time equals... (1,00 P.)

- 37 Min.
- 48 Min.
- 84 Min.
- 62 Min.

- 78 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° left.
- 7° right.
- 3° right.
- 3° left.

- 79 Given:
True course: 120°.
TAS: 120 kt.
Wind: 150°/12 kt.

The WCA equals... (1,00 P.)

- 6° to the left.
- 3° to the right.
- 6° to the right.
- 3° to the left.

- 80 A well-known ground feature along the flight track is passed 5 minutes ahead of the planned flight schedule. The expected ground speed was 120 kts and the distance of the previously flown leg was 30 NM.

The wind component (WC) equals... (1,00 P.)

- 18 kts tailwind.
- 25 kts tailwind.
- 60 kts tailwind.
- 20 kts tailwind.

- 81 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.)

- 6° left
- 14° left
- 15° left
- 8° left

- 82 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.)

- 12° to the right
- 6° to the right
- 9° to the right
- 18° to the right

- 83 What is the meaning of the 1:60 rule?**

(1,00 P.)

- 60 NM lateral offset at 1° drift after 1 NM
- 1 NM lateral offset at 1° drift after 60 NM
- 10 NM lateral offset at 1° drift after 60 NM
- 6 NM lateral offset at 1° drift after 10 NM

- 84 An aircraft is flying from 'A' to 'B' (distance 220 NM) at an average ground speed (GS) of 120 kt. It departs 'A' at 1200 UTC. After 70 NM along the course from 'A', the aircraft is 5 min ahead of the planned schedule.**

Using the actual GS, what is the revised estimated time of arrival (ETA) at B?

(1,00 P.)

- 1335 UTC
- 1330 UTC
- 1345 UTC
- 1340 UTC

- 85 Assume calm wind and an aircraft descending from 9000 ft to 1500 ft. The rate of descent (ROD) equals 1200 ft/min.**

The elapsed time will be... (1,00 P.)

- 12 min.
- 6 min.
- 15 min.
- 8 min.

- 86 Assume zero wind and an aircraft descending from 7500 ft to 1200 ft with an average true airspeed (TAS) during the descent of 105 kt. The rate of descent (ROD) equals 800 ft/min.**

The elapsed time will be... (1,00 P.)

- 6 Min.
- 8 Min.
- 15 Min.
- 12 Min.

- 87 Which answer completes the flight plan (marked cells)?**

See annex (NAV-014) (3,00 P.)

Siehe Anlage 3

- TH: 173°.
MH: 184°.
MC: 178°.
- TH: 185°.
MH: 185°.
MC: 180°.
- TH: 173°.
MH: 174°.
MC: 178°.
- TH: 185°.
MH: 184°.
MC: 178°.

- 88 What radio navigation aid can be received with the attached aerial?**

See figure (NAV-017) (1,00 P.)

- NDB
- DME
- VDF
- VOR



89 The approximate propagation speed of electromagnetic waves is... (1,00 P.)

- 300000 ft/s.
- 300000 km/s.
- 300000 m/s.
- 300000 NM/s.

90 Radio waves within the LF and MF range (e.g. NDB) travel as... (1,00 P.)

- sky wave.
- ground / surface wave.
- sky wave and as ground / surface wave.
- space wave (quasi-optical).

91 Radio waves within the VHF range (e.g. VOR) travel as... (1,00 P.)

- space wave (quasi-optical).
- ground / surface wave.
- sky wave and ground / surface wave.
- sky wave.

92 Quasi-optical waves travel... (1,00 P.)

- through the air directly from the transmitter to the receiver.
- through the air and are influenced (e.g. reflected) by the ionosphere.
- along the surface of the earth, but are absorbed by the sea.
- along the surface of the earth.

93 A VHF direction finder (VDF) can determine... (1,00 P.)

- slant ranges.
- true courses.
- magnetic bearings.
- approach speeds.

94 Which equipment is needed on board of an aircraft to use a VHF direction finder (VDF)? (1,00 P.)

- A VDF receiver
- A relative bearing indicator (RBI)
- At least two VHF aerials
- A VHF radio

**95 Given:
QDM: 138°
VAR: 10° E**

The QUJ equals... (1,00 P.)

- 318°.
- 328°.
- 148°.
- 168°.

**96 Given:
QTE: 229°
VAR: 10° W**

**The QDM equals...
(1,00 P.)**

- 059°.
- 039°.
- 049°.
- 239°.

**97 Given:
QDR: 022°
VAR: 10° E**

**The QTE equals...
(1,00 P.)**

- 212°.
- 202°.
- 032°.
- 052°.

98 Given:
QDM: 248°
VAR: 10° W

The QTE is...
(1,00 P.)

- 258°.
- 078°.
- 058°.
- 238°.

99 Given:
QDR: 067°
VAR: 5° E

The QDM equals...
(1,00 P.)

- 247°.
- 072°.
- 257°.
- 252°.

100 Given:
QDR: 152°
VAR: 5° W
DEV: 5° E

The QUJ equals... (1,00 P.)

- 327°.
- 317°.
- 332°.
- 147°.

101 Given:
QTE: 203°
VAR: 10° E

The QDR equals...
(1,00 P.)

- 213°.
- 193°.
- 013°.
- 023°.

- 102 Given:**
QTE: 248°
VAR: 10° W

The QDR equals...

(1,00 P.)

- 078°.
- 258°.
- 068°.
- 238°.

- 103 Given:**
QDM: 134°
VAR: 5° W

The QTE equals...

(1,00 P.)

- 309°.
- 129°.
- 299°.
- 314°.

- 104 The pilot receives a QDR of 225° from the VDF ground station.**

Where is the aircraft located in relation to the ground station?

(1,00 P.)

- Southeast
- Northwest
- Northeast
- Southwest

- 105 The term QDR means... (1,00 P.)**

- true bearing from the station to the aircraft.
- true bearing from the aircraft to the station.
- magnetic bearing from the station to the aircraft.
- magnetic bearing from the aircraft to the station.

106 The term QTE means... (1,00 P.)

- magnetic bearing from the aircraft to the station.
- magnetic bearing from the station to the aircraft.
- true bearing from the station to the aircraft.
- true bearing from the aircraft to the station.

107 A pilot receives a QDR of 135° from the VDF ground station.

**Where is the aircraft located in relation to the ground station?
(1,00 P.)**

- Northeast
- Southeast
- Southwest.
- Northwest

108 A pilot receives a QDR of 315° from the VDF ground station.

**Where is the aircraft located in relation to the ground station?
(1,00 P.)**

- Southeast
- Northeast
- Southwest
- Northwest

109 The VDF range depends on... (1,00 P.)

- the condition of the ionosphere.
- the range of the ground / surface wave.
- the aircraft's speed.
- the aircraft's altitude.

110 Which equipment is needed on board of an aircraft to receive signals from a non-directional beacon (NDB)? (1,00 P.)

- Secondary surveillance radar (SSR)
- Course deviation indicator (CDI)
- Horizontal situation indicator (HSI)
- Automatic direction finder (ADF)

111 Non-directional beacons (NDBs) transmit within which frequency band? (1,00 P.)

- Very low frequency (VLF) and low frequency (LF)
- Low frequency (LF) and medium frequency (MF)
- High frequency (HF)
- Very high frequency (VHF)

- 112 A pilot wants to approach an NDB on QDM 090°. The aircraft flies for about 5 minutes with a magnetic heading (MH) of 095° and the RBI indication of 355°. After 6 minutes the RBI indicates 358°.

Which statement is correct? (1,00 P.)

- The crosswind component increased; the pilot has to increase the MH
- The crosswind component decreased; the pilot has to increase the MH
- The crosswind component decreased; the pilot has to decrease the MH
- The crosswind component increased; the pilot has to decrease the MH

- 113 The pilot wants to proceed directly to the beacon. The wind is calm.

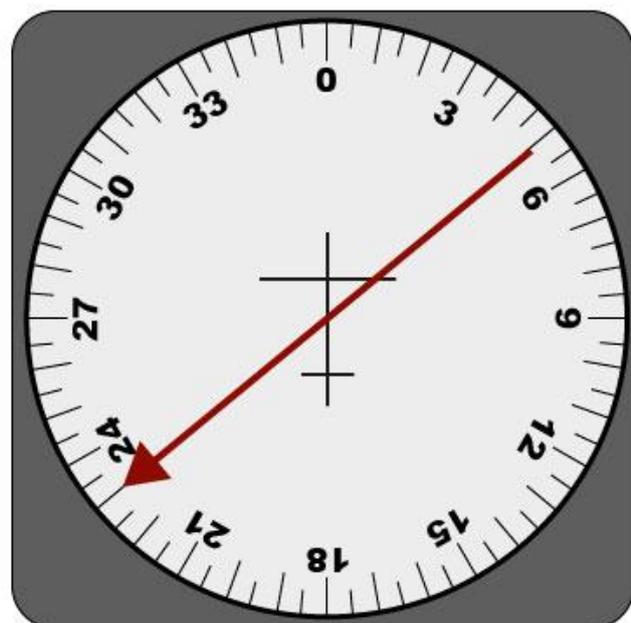
The pilot should follow a QDM of...

See figure (NAV-019) (1,00 P.)

- 230°.
- 080°.
- 260°.
- 200°.



NAV-019



- 114 What is the difference between a locator beacon and a non-directional beacon (NDB)? (1,00 P.)

- Locator beacons have a lower range than NDBs
- Locator beacons transmit more precisely
- Locator beacons have a higher range than NDBs
- Locator beacons transmit on request only

115 The range of NDBs transmitting in the medium frequency range is greatest... (1,00 P.)

- on midday.
- in the daytime.
- at night.
- before midday.

116 The shoreline effect is greatest with radio wave propagation... (1,00 P.)

- at a right angle to the coast; aircraft above 6000 ft.
- at an acute angle to the coast; aircraft above 6000 ft.
- at an acute angle to the coast; aircraft below 6000 ft.
- at a right angle to the coast; aircraft below 6000 ft.

117 Fading in LF/MF frequency range occurs mainly... (1,00 P.)

- during the night.
- at midday.
- in the daytime.
- in the late afternoon.

118 The progress of an electromagnetic oscillation can be described by the... (1,00 P.)

- wave angle.
- phase angle.
- amplitude angle.
- frequency angle.

119 When transmitter and receiver are moving towards each other... (1,00 P.)

- the perceived frequency decreases.
- the perceived frequency equals the transmitted frequency.
- the frequency varies, but the wavelength remains constant.
- the perceived frequency increases.

120 When transmitter and receiver are moving away from each other... (1,00 P.)

- the perceived frequency increases.
- the perceived frequency decreases.
- the perceived frequency equals the transmitted frequency.
- the frequency varies, but the wavelength remains constant.

121 VOR radials are defined based on the principle of... (1,00 P.)

- pulse comparison of two signals.
- frequency comparison of two signals.
- amplitude comparison of two signals.
- phase comparison of two signals.

122 A VOR radial corresponds to the... (1,00 P.)

- QTE.
- QDR.
- QUJ.
- QDM.

123 Full deflection of the course deviation indicator (CDI) means that the aircraft is located at least... (1,00 P.)

- 10 NM beside the selected course.
- 2 NM beside the selected course.
- 10° beside the selected course.
- 2° beside the selected course.

124 Where is the aircraft located in relation to the VOR?

See annex (NAV-022) (1,00 P.)

Siehe Anlage 4

- Southeast
- Northeast
- Northwest
- Southwest

125 The aircraft is on radial...

See annex (NAV-024) (1,00 P.)

Siehe Anlage 5

- 060°.
- 234°.
- 246°.
- 066°.

126 The range of a VOR is highly affected by... (1,00 P.)

- multipath propagation of the ground wave.
- reflected sky waves.
- transmitter and receiver altitude.
- daylight interference.

- 127 The distance measuring equipment (DME) determines the distance based on the principle of... (1,00 P.)**
- Doppler.
 - laser measurement.
 - phase comparison.
 - time measurement.
- 128 The DME reading is a... (1,00 P.)**
- air range.
 - ground distance.
 - radial distance.
 - slant range.
- 129 The differenz between indicated DME slant range and horizontal distance from the DME station increases... (1,00 P.)**
- when circling around the DME station.
 - when approaching the DME station.
 - when departing the DME station.
 - when descending.
- 130 Using primary ground radar, the direction of the aeroplane in relation to the antenna is determined by... (1,00 P.)**
- the frequency shift of the received pulse.
 - the pulse pair interval.
 - the orientation of the antenna.
 - time measurement.
- 131 Which instantaneous information can be obtained from ground radar equipment? (1,00 P.)**
- Airspeed (TAS) and heading
 - Airspeed (TAS) and distance
 - Direction and airspeed (TAS)
 - Distance and direction
- 132 The on-board equipment of the secondary surveillance radar (SSR) is called... (1,00 P.)**
- decoder.
 - transponder.
 - interrogator.
 - course indicator.

133 What is the difference between primary and secondary radar? (1,00 P.)

- The pulses of a primary radar are variably pulse-modulated, the pulses of a secondary radar are statically amplitude-modulated
- The pulses of a primary radar are variably amplitude-modulated, the pulses of a secondary radar are statically pulse-modulated
- The primary radar is displayed on a computer screen, the secondary radar on a radar strip
- The pulses of a primary radar are reflected by the aircraft's surface, the pulses of a secondary radar system are answered by a transponder

134 The transponder code in case of hi-jacking is... (1,00 P.)

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

135 The transponder code in case of a radio communication failure is... (1,00 P.)

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

136 Which altitude is transmitted by the transponder in mode C? (1,00 P.)

- Pressure altitude
- QFE altitude
- Radio altitude
- QNH altitude

137 How many satellites are necessary for a precise and verified three-dimensional determination of the position? (1,00 P.)

- Three
- Five
- Four
- Two

138 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 depends on the operating mode of the GPS.
- 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 angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS.

Anlage 1

NAV-004

BEFORE START CHECKLIST	
Preflight Check	COMPLETED
Passengers	ADVISED
Seats / Seat Belts	SECURE
Door / Window	CLOSED
Brakes	SET
Flight Controls	FREE
Fuel Selector	BOTH
Circuit Breaker	CHECKED
Radio Master Switch	OFF
ACL	ON
Master Switch	ON
Flaps	RETRACTED
Before Start Checklist completed	
AFTER START CHECKLIST	
Engine Instruments	NORMAL
Avionic Master	ON
Altimeter	SET
Gyro	SET
After Start Checklist completed	
TAXI CHECKLIST	
Lights	_____
Brakes	CHECKED
Turning Instruments	CORRECT
Taxi Checklist completed	

Anlage 2



Anlage 3

P6	P7		P8	P9		P9	P10	P11
NAV-014	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		

Anlage 4



NAV-022

Anlage 5



NAV-024