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**Part-FCL question bank**

**BPL**

*(Excerpt)*

**Published sample  
questions**

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If you have any comments or suggestions regarding the content of the questionnaire, please send them to [info@aircademy.com](mailto:info@aircademy.com).

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- 1 What is the gas composition of "air"?**
- A) Nitrogen 21 %  
Oxygen 78 %  
Noble gases / carbon dioxide 1 %
  - B) Oxygen 21 %  
Nitrogen 78 %  
Noble gases / carbon dioxide 1 %
  - C) Oxygen 21 %  
Water vapour 78 %  
Noble gases / carbon dioxide 1 %
  - D) Oxygen 78 %  
Water vapour 21 %  
Nitrogen 1 %
- 2 Weather phenomena are most common to be found in which atmospheric layer?**
- A) Troposphere
  - B) Thermosphere
  - C) Tropopause
  - D) Stratosphere
- 3 At what rate does the temperature change with increasing height according to ISA (ICAO Standard Atmosphere) within the troposphere?**
- A) Increases by 2° C / 100 m
  - B) Decreases by 2° C / 1000 ft
  - C) Increases by 2° C / 1000 ft
  - D) Decreases by 2° C / 100 m
- 4 The term "tropopause" is defined as...**
- A) the layer above the troposphere showing an increasing temperature.
  - B) the boundary area between the mesosphere and the stratosphere.
  - C) the height above which the temperature starts to decrease.
  - D) the boundary area between the troposphere and the stratosphere.
- 5 The temperature lapse rate with increasing height within the troposphere according ISA is...**
- A) 0.65° C / 100 m.
  - B) 0.6° C / 100 m.
  - C) 3° C / 100 m.
  - D) 1° C / 100 m.
- 6 What is the ISA standard pressure at FL 180 (5500 m)?**
- A) 500 hPa
  - B) 250 hPa
  - C) 300 hPa
  - D) 1013.25 hPa
-

**7 The pressure at MSL in ISA conditions is...**

- A) 1123 hPa.
- B) 15 hPa.
- C) 1013.25 hPa.
- D) 113.25 hPa.

**8 The altimeter can be checked on the ground by setting...**

- A) QFF and comparing the indication with the airfield elevation.
- B) QNE and checking that the indication shows zero on the ground.
- C) QNH and comparing the indication with the airfield elevation.
- D) QFE and comparing the indication with the airfield elevation.

**9 How can wind speed and wind direction be derived from surface weather charts?**

- A) By alignment of lines of warm- and cold fronts.
- B) By alignment and distance of isobaric lines
- C) By annotations from the text part of the chart
- D) By alignment and distance of hypsometric lines

**10 Above the friction layer, with a prevailing pressure gradient, the wind direction is...**

- A) perpendicular to the isohypses.
- B) at an angle of 30° to the isobars towards low pressure.
- C) perpendicular to the isobars.
- D) parallel to the isobars.

**11 The movement of air flowing apart is called...**

- A) concordence.
- B) subsidence.
- C) convergence.
- D) divergence.

**12 When air masses meet each other head on, how is this referred to and what air movements will follow?**

- A) Convergence resulting in sinking air
- B) Convergence resulting in air being lifted
- C) Divergence resulting in sinking air
- D) Divergence resulting in air being lifted

**13 What are the air masses that Central Europe is mainly influenced by?**

- A) Polar cold air and tropical warm air
- B) Tropical and arctic cold air
- C) Arctic and polar cold air
- D) Equatorial and tropical warm air

- 14 With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air?**
- A) At the subtropical high pressure belt
  - B) At the polar front
  - C) At the equator
  - D) At the geographic poles
- 15 "Foehn" conditions usually develop with...**
- A) stability, widespread air blown against a mountain ridge.
  - B) instability, high pressure area with calm wind.
  - C) instability, widespread air blown against a mountain ridge.
  - D) stability, high pressure area with calm wind.
- 16 What type of turbulence is typically found close to the ground on the lee side during Foehn conditions?**
- A) Turbulence in rotors
  - B) Inversion turbulence
  - C) Clear-air turbulence (CAT)
  - D) Thermal turbulence
- 17 Light turbulence always has to be expected...**
- A) below cumulus clouds due to thermal convection.
  - B) when entering inversions.
  - C) below stratiform clouds in medium layers.
  - D) above cumulus clouds due to thermal convection.
- 18 Which answer contains every state of water found in the atmosphere?**
- A) Liquid, solid, and gaseous
  - B) Liquid and solid
  - C) Liquid
  - D) Gaseous and liquid
- 19 How do spread and relative humidity change with increasing temperature?**
- A) Spread remains constant, relative humidity increases
  - B) Spread remains constant, relative humidity decreases
  - C) Spread increases, relative humidity increases
  - D) Spread increases, relative humidity decreases
- 20 With other factors remaining constant, decreasing temperature results in...**
- A) decreasing spread and increasing relative humidity.
  - B) decreasing spread and decreasing relative humidity.
  - C) increasing spread and decreasing relative humidity.
  - D) increasing spread and increasing relative humidity.

**21 The saturated adiabatic lapse rate is...**

- A) equal to the dry adiabatic lapse rate.
- B) higher than the dry adiabatic lapse rate.
- C) lower than the dry adiabatic lapse rate.
- D) proportional to the dry adiabatic lapse rate.

**22 The saturated adiabatic lapse rate should be assumed with a mean value of:**

- A) 0.6° C / 100 m.
- B) 0° C / 100 m.
- C) 1.0° C / 100 m.
- D) 2° C / 1000 ft.

**23 Which conditions are likely for the formation of advection fog?**

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

**24 Clouds are basically distinguished by what types?**

- A) Cumulus and stratiform clouds
- B) Stratiform and ice clouds
- C) Thunderstorm and shower clouds
- D) Layered and lifted clouds

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

**See figure (MET-004).**

**Please pay attention to annex 1**

- A) Altocumulus
- B) Cumulus
- C) Cirrus
- D) Stratus

**26 What factor may affect the top of cumulus clouds?**

- A) The spread
- B) Relative humidity
- C) The presence of an inversion layer
- D) The absolute humidity

**27 What condition may prevent the formation of "radiation fog"?**

- A) Calm wind
- B) Clear night, no clouds
- C) Overcast cloud cover
- D) Low spread

**28 What process results in the formation of "advection fog"?**

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

**29 What factors are required for the formation of precipitation in clouds?**

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

**30 The formation of medium to large precipitation particles requires...**

- A) strong updrafts.
- B) a high cloud base.
- C) strong wind.
- D) an inversion layer.

**31 The character of an air mass is given by what properties?**

- A) Wind speed and tropopause height
- B) Temperatures at origin and present region
- C) Environmental lapse rate at origin
- D) Region of origin and track during movement

**32 The symbol labeled (2) as shown in the picture is a / an...**

**See figure (MET-005)**

**Please pay attention to annex 2**

- A) warm front.
- B) cold front.
- C) front aloft.
- D) occlusion.

**33 The symbol labeled (3) as shown in the picture is a / an...**

**See figure (MET-005)**

**Please pay attention to annex 2**

- A) cold front.
- B) occlusion.
- C) warm front.
- D) front aloft.

**34 What visual flight conditions can be expected after the passage of a cold front?**

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

**35 What pressure pattern can be observed during the passage of a polar front low?**

- A) Falling pressure in front of the warm front, constant pressure within the warm sector, falling pressure behind the cold front
- B) Rising pressure in front of the warm front, rising pressure within the warm sector, falling pressure behind the cold front
- C) Rising pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- D) Falling pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front

**36 What change of wind direction can be expected during the passage of a polar front low in Central Europe?**

- A) Veering wind during passage of the warm front, veering wind during passage of the cold front
- B) Backing wind during passage of the warm front, veering wind during passage of the cold front
- C) Backing wind during passage of the warm front, backing wind during passage of the cold front
- D) Veering wind during passage of the warm front, backing wind during passage of the cold front

**37 Cold air inflow in high tropospheric layers may result in...**

- A) frontal weather.
- B) showers and thunderstorms.
- C) calm weather and cloud dissipation.
- D) stabilisation and calm weather.

**38 What weather phenomena have to be expected around an upper-level trough?**

- A) Calm wind, forming of shallow cumulus clouds
- B) Calm weather, formation of lifted fog layers
- C) Development of showers and thunderstorms (Cb)
- D) Formation of high stratus clouds, ground-covering cloud bases

**39 What weather conditions can be expected in high pressure areas during summer?**

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



- 40 What wind conditions can be expected in areas showing large distances between isobars?**
- A) Variable winds, formation of local wind systems
  - B) Strong prevailing westerly winds with rapid veering
  - C) Formation of local wind systems with strong prevailing westerly winds
  - D) Strong prevailing easterly winds with rapid backing
- 41 What conditions are mandatory for the formation of thermal thunderstorms?**
- A) Conditionally unstable atmosphere, high temperature and high humidity
  - B) Absolutely stable atmosphere, high temperature and low humidity
  - C) Absolutely stable atmosphere, high temperature and high humidity
  - D) Conditionally unstable atmosphere, low temperature and low humidity
- 42 What phenomenon is caused by cold air downdrafts with precipitation from a fully developed thunderstorm cloud?**
- A) Electrical discharge
  - B) Anvil-head top of Cb cloud
  - C) Freezing Rain
  - D) Gust front
- 43 Information about pressure patterns and frontal situation can be found in which chart?**
- A) Surface weather chart
  - B) Significant Weather Chart (SWC)
  - C) Hypsometric chart
  - D) Wind chart
- 44 Measured pressure distribution in MSL and corresponding frontal systems are displayed by the...**
- A) hypsometric chart.
  - B) Significant Weather Chart (SWC).
  - C) surface weather chart.
  - D) prognostic chart.
- 45 In a METAR, "(moderate) showers of rain" are designated by the identifier...**
- A) TS.
  - B) +TSRA.
  - C) SHRA.
  - D) +RA.
- 46 What can be expected for the prevailing wind with isobars on a surface weather chart showing large distances?**
- A) Low pressure gradients resulting in strong prevailing wind
  - B) Strong pressure gradients resulting in low prevailing wind
  - C) Strong pressure gradients resulting in strong prevailing wind
  - D) Low pressure gradients resulting in low prevailing wind

**47 How does air temperature change in ISA from MSL to approx. 10,000 m height?**

- A) from +20° to -40°C
- B) from -15° to 50°C
- C) from +30° to -40°C
- D) from +15° to -50°C

## Annex 1



Annex 2

