

Principles of Meteorology

Meteorology · Practice Test · 25 Questions

1. What is the primary gas by volume in the Earth's atmosphere?

- A) Oxygen
- B) Argon
- C) Nitrogen
- D) Carbon Dioxide

2. Which layer of the atmosphere contains the ozone layer that absorbs ultraviolet radiation?

- A) Troposphere
- B) Stratosphere
- C) Mesosphere
- D) Thermosphere

3. What is the name of the process by which water vapor turns into liquid water droplets?

- A) Evaporation
- B) Sublimation
- C) Condensation
- D) Transpiration

4. Which instrument is used specifically to measure atmospheric pressure?

- A) Anemometer
- B) Hygrometer
- C) Barometer
- D) Pyranometer

5. What defines the 'dew point' temperature?

- A) The boiling point of water
- B) The temperature at which air becomes saturated
- C) The temperature when ice melts
- D) The freezing point of sea water

6. The Coriolis effect is primarily caused by which of the following?

- A) The Earth's rotation
- B) Solar radiation
- C) Ocean currents
- D) Volcanic activity

7. Which type of cloud is characterized by a flat, featureless, sheet-like appearance often covering the entire sky?

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

8. What is the term for the boundary separating two different air masses?

- A) Isobar
- B) Front
- C) Trough
- D) Ridge

9. In which atmospheric layer does almost all of Earth's weather occur?

- A) Thermosphere
- B) Mesosphere
- C) Stratosphere
- D) Troposphere

10. What scale is used to classify the intensity of tornadoes based on damage?

- A) Saffir-Simpson Scale
- B) Beaufort Scale
- C) Enhanced Fujita Scale
- D) Richter Scale

11. What does a hygrometer measure?

- A) Wind speed
- B) Relative humidity
- C) Precipitation
- D) Solar radiation

12. Which phenomenon describes the warming of the central and eastern tropical Pacific Ocean?

- A) La Niña
- B) El Niño
- C) Jet Stream
- D) Trade Winds

13. What are lines on a weather map that connect points of equal atmospheric pressure called?

- A) Isotherms
- B) Isohyets
- C) Isobars
- D) Isotachs

14. Which gas is the most significant greenhouse gas contributing to anthropogenic climate change?

- A) Nitrous oxide
- B) Methane
- C) Carbon dioxide
- D) Ozone

15. What is the standard unit of measurement for air pressure in meteorology?

- A) Pascal
- B) Hectopascal
- C) Newton
- D) Joule

16. Which global wind belt is found between 30 and 60 degrees latitude?

- A) Trade winds
- B) Polar easterlies
- C) Westerlies
- D) Doldrums

17. What is the name of the high-altitude, fast-moving 'river' of air that influences weather patterns?

- A) Trade winds
- B) Jet stream
- C) Monsoon
- D) Sea breeze

18. What happens to air pressure as altitude increases?

- A) It remains constant
- B) It increases
- C) It decreases
- D) It fluctuates randomly

19. Which form of precipitation consists of ice pellets smaller than 5mm?

- A) Hail
- B) Sleet
- C) Graupel
- D) Snow

20. What is the dry adiabatic lapse rate of unsaturated air?

- A) 6.5°C per 1,000m
- B) 9.8°C per 1,000m
- C) 3.5°C per 1,000m
- D) 0°C per 1,000m

21. What characterizes an anticyclone?

- A) Low pressure center with inward winds
- B) High pressure center with outward winds
- C) Rapid vertical convection
- D) High levels of precipitation

22. What causes the formation of sea breezes during the day?

- A) Ocean water heating faster than land
- B) Land heating faster than ocean water
- C) High pressure over land
- D) Uniform heating

23. What is 'albedo' in the context of climate science?

- A) The heat capacity of water
- B) The reflectivity of a surface
- C) The density of air
- D) The chemical composition of clouds

24. Which layer of the atmosphere is where most meteors burn up?

- A) Troposphere
- B) Stratosphere
- C) Mesosphere
- D) Exosphere

25. What is the term for a tropical cyclone that forms in the northwest Pacific Ocean?

- A) Hurricane
- B) Cyclone
- C) Typhoon
- D) Willy-willy