

Fundamentals of Climatology

Climatology · Practice Test · 25 Questions

1. How many years is the standard period used by the WMO to calculate climate normals?

- A) 5 years
- B) 10 years
- C) 30 years
- D) 100 years

2. In which year was the Intergovernmental Panel on Climate Change (IPCC) established?

- A) 1988
- B) 1992
- C) 1997
- D) 2005

3. What percentage of Earth's atmosphere is composed of Nitrogen?

- A) 10%
- B) 21%
- C) 78%
- D) 99%

4. Which scientist is credited with first proposing the 'greenhouse effect' in 1824?

- A) Joseph Fourier
- B) Svante Arrhenius
- C) Guy Callendar
- D) Charles Keeling

5. How many main climate groups are included in the Köppen climate classification system?

- A) 2
- B) 5
- C) 10
- D) 12

6. The Keeling Curve measures the concentration of which gas in the atmosphere?

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

7. What is the approximate freezing point of water in degrees Celsius?

- A) 0
- B) 10
- C) 32
- D) 100

8. The Montreal Protocol, signed in 1987, was designed to protect which layer of the atmosphere?

- A) Troposphere
- B) Ozone layer
- C) Ionosphere
- D) Mesosphere

9. How many degrees Celsius of warming since the pre-industrial era is the 2015 Paris Agreement aiming to limit global temperature rise to?

- A) 1.0
- B) 1.5
- C) 2.5
- D) 5.0

10. The 'Little Ice Age' is generally considered to have ended around which year?

- A) 1750
- B) 1850
- C) 1950
- D) 2000

11. What is the number of main layers in the Earth's atmosphere based on temperature profile?

- A) 3
- B) 5
- C) 7
- D) 9

12. In 1896, which Swedish scientist calculated the effect of doubling atmospheric CO₂ on global temperature?

- A) John Tyndall
- B) Svante Arrhenius
- C) Milutin Milankovitch
- D) James Hansen

13. What is the latitude in degrees of the Equator?

- A) 0
- B) 45
- C) 66
- D) 90

14. The 'Milankovitch cycles' describe changes in Earth's orbit occurring over periods of how many thousands of years?

- A) 1 to 5
- B) 10 to 100
- C) 500 to 1000
- D) 5000 to 10000

15. What percentage of solar radiation is estimated to be reflected back into space by Earth's albedo?

- A) 10%
- B) 30%
- C) 50%
- D) 70%

16. How many primary climate zones are typically identified in the Earth's latitudinal system?

- A) 3
- B) 5
- C) 7
- D) 10

17. The year 2016 was recorded as one of the hottest on record; which organization tracks global surface temperatures?

- A) NASA
- B) WHO
- C) UNESCO
- D) FIFA

18. What is the approximate height of the Tropopause in kilometers at the equator?

- A) 5 km
- B) 16 km
- C) 30 km
- D) 50 km

19. The Kyoto Protocol was adopted in which year?

- A) 1990
- B) 1997
- C) 2003
- D) 2010

20. How many atoms of oxygen are in a single ozone molecule?

- A) 1
- B) 2
- C) 3
- D) 4

21. Approximately how many degrees is the Earth's axial tilt?

- A) 13.5
- B) 23.5
- C) 33.5
- D) 43.5

22. The Sahara Desert is classified as which type of climate zone?

- A) Tropical
- B) Arid
- C) Temperate
- D) Polar

23. What was the approximate global human population in 1900, when modern climate record-keeping increased?

- A) 0.6 billion
- B) 1.6 billion
- C) 3.6 billion
- D) 6.6 billion

24. In which year did James Hansen testify before the US Senate about global warming?

- A) 1978
- B) 1988
- C) 1998
- D) 2008

25. Water vapor contributes to approximately what percentage of the natural greenhouse effect?

- A) 10%
- B) 30%
- C) 60%
- D) 90%