

Global Scientific Diplomacy & Breakthroughs: AI Ethics, Fusion Energy, and S

Scientific Diplomacy · Answer Key · 12 Questions

1. The Council of Europe's Framework Convention on Artificial Intelligence, which opened for signature in September 2024, is the first legally binding international treaty in this field. Which of the following is a primary objective of this convention?

- A) To establish a unified global AI market and standardize AI product development.
- B) To ensure AI systems align with human rights, democracy, and the rule of law.**
- C) To promote the rapid development of AI for military applications.
- D) To create a global AI research and development funding pool.

2. In the pursuit of fusion energy, which of the following nations has recently entered into strategic partnerships with the U.S. Department of Energy to accelerate demonstration and commercialization, signifying a growing global race in this sector?

- A) Japan and the United Kingdom**
- B) China and India
- C) Germany and France
- D) South Korea and Canada

3. The World Health Organization (WHO) released principles for the ethical collection, access, use, and sharing of human genomic data in November 2024. A key focus of these principles, particularly concerning low- and middle-income countries (LMICs), is to:

- A) Restrict genomic data sharing to high-income countries to ensure data quality.
- B) Prioritize the commercialization of genomic data for pharmaceutical companies.
- C) Address disparities and ensure genomic research benefits populations in all their diversity.**
- D) Centralize all genomic data within a single WHO database for global oversight.

4. The International Space Station (ISS) continues to be a hub for international scientific collaboration. In FY2024, what approximate percentage of publications stemming from ISS research were collaborations between multiple countries?

- A) Approximately 10%
- B) Approximately 25%
- C) Approximately 40%**
- D) Approximately 75%

5. The Paris Agreement, signed in 2016, aims to strengthen the global response to climate change. What significant event related to the agreement occurred in 2023, assessing the collective progress of signatory nations?

- A) The establishment of a new global carbon tax.
- B) The first 'global stocktake' of efforts to limit global temperature increase.**
- C) The mandatory implementation of carbon capture technologies by all signatories.
- D) The creation of a global climate change adaptation fund.

6. In the realm of quantum technology, the World Economic Forum reported in December 2023 that approximately how many countries had national initiatives or strategies to support its development?

- A) 5
- B) 12
- C) 24**
- D) 40

7. The World Fusion Energy Group (WFEG) held its inaugural ministerial meeting in Rome in November 2024. Which international agency co-organized this event, emphasizing global advancements in fusion as a clean energy source?

- A) The International Renewable Energy Agency (IRENA)
- B) The International Atomic Energy Agency (IAEA)**
- C) The World Energy Council (WEC)
- D) The International Energy Agency (IEA)

8. The Council of Europe's Framework Convention on Artificial Intelligence bases its definition of 'AI system' on the one adopted by which international organization in November 2023, to foster global harmonization?

- A) The United Nations (UN)
- B) The International Telecommunication Union (ITU)
- C) The Organisation for Economic Co-operation and Development (OECD)**
- D) The World Trade Organization (WTO)

9. NASA's Europa Clipper mission, launched in 2024, has the primary objective of exploring Jupiter's moon Europa. What is the key scientific question this mission aims to address regarding Europa's potential for life?

- A) Whether its subsurface ocean could be a suitable habitat for extraterrestrial life.**
- B) The presence of advanced microbial civilizations within its ice shell.
- C) The geological activity on its surface that might indicate volcanism.
- D) The composition of its thin atmosphere and its interaction with Jupiter's magnetosphere.

10. The G7 Energy and Environment Ministers' Meeting in Toronto (October 2025) issued a 'Statement on Nuclear and Fusion Energy,' emphasizing sustained international cooperation. Which two G7 nations have already established fusion regulations separate from nuclear fission, a crucial step for commercialization?

A) United States and United Kingdom

B) Canada and Japan

C) Germany and Italy

D) France and European Union

11. The World Health Organization (WHO) released principles for ethical genomic data sharing. These principles emphasize equity by calling for targeted efforts to address disparities, especially in which group of countries?

A) High-income countries (HICs)

B) Low- and middle-income countries (LMICs)

C) Countries with established advanced genetic research programs

D) Island nations with limited research infrastructure

12. Which international collaboration involving over 100 nations, celebrated new successes in 2024, including the first live human heart tissue 3D bioprinting in space and the first metal 3D print of liquified stainless steel?

A) The Large Hadron Collider (LHC)

B) The International Space Station (ISS)

C) The ITER Fusion Project

D) The Square Kilometre Array (SKA)