

2024 Tech Revolution: AI, Quantum Leaps, and Sustainable Energy Emerge

Technology News · Answer Key · 18 Questions

1. Which AI model, announced in May 2024, is capable of seeing, hearing, and engaging in real-time conversations, and is reportedly 50% cheaper and twice as fast as its predecessor?

A) ChatGPT-4o

- B) Gemini Advanced
- C) Microsoft Copilot
- D) Apple Intelligence

2. In 2024, what type of solar cell saw advancements making them more efficient and cheaper to produce than traditional silicon-based cells?

A) Perovskite solar cells

- B) Thin-film solar cells
- C) Organic solar cells
- D) Concentrated solar power

3. Which major tech company unveiled "Apple Intelligence" in June 2024, integrating AI features into its operating systems for iPhones, iPads, and Macs?

A) Apple

- B) Google
- C) Microsoft
- D) Samsung

4. What significant milestone in quantum computing was achieved in 2024 with the demonstration of error-corrected logical qubits, crucial for fault-tolerant systems?

A) Successful demonstration of error-corrected logical qubits

- B) Development of a 10,000-qubit quantum processor
- C) Realization of quantum supremacy in drug discovery
- D) Commercial availability of quantum internet

5. In the realm of electric vehicles, what technology is expected to continue being popular in 2024 for supporting higher voltage powertrain buses and improving efficiency?

A) Silicon carbide (SiC)

- B) Lithium-ion batteries
- C) Solid-state batteries
- D) Wireless charging

6. What new type of solar cell, highlighted in 2024 advancements, is noted for being more efficient and cheaper to produce than traditional silicon-based cells?

- A) Perovskite**
- B) Cadmium Telluride
- C) Copper Indium Gallium Selenide
- D) Gallium Arsenide

7. Which of these AI tools, announced by OpenAI in May 2024, is described as being able to see, hear, and have real-time conversations?

- A) ChatGPT-4o**
- B) DALL-E 3
- C) Sora
- D) Whisper

8. In 2024, which European Union regulation became the world's first comprehensive legal framework specifically for artificial intelligence?

- A) The AI Act**
- B) The GDPR
- C) The Cyber Resilience Act
- D) The Digital Services Act

9. What advancement in semiconductor technology, gaining attention in 2024, involves composing integrated circuits from smaller, individual semiconductor dies?

- A) Chiplet technology**
- B) 3D stacking
- C) Wafer-level packaging
- D) Graphene transistors

10. What type of renewable energy innovation, with large-scale projects coming online in 2024, involves platforms anchored in deep waters for higher and more consistent wind speeds?

- A) Floating wind farms**
- B) Vertical-axis wind turbines
- C) Airborne wind energy systems
- D) Offshore wind farms

11. Which space mission, launched in October 2024, is designed to explore Jupiter's moon Europa to investigate its potential to harbor life?

- A) Europa Clipper**
- B) Artemis II
- C) Martian Moons eXploration (MMX)
- D) VIPER

12. In 2024, Microsoft announced a new division called Microsoft AI, hiring key figures from which AI startup to lead it?

A) Inflection AI

- B) OpenAI
- C) Anthropic
- D) xAI

13. What significant development in biotechnology in 2024 included the first CRISPR-based therapy receiving regulatory approval for sickle cell patients?

A) CRISPR gene editing

- B) RNA editing
- C) Biosensors
- D) Bioprinting

14. Google's Willow Processor, a 105-qubit superconducting chip demonstrated in 2024, achieved what significant step towards fault-tolerant quantum computing?

A) Below-threshold quantum error correction

- B) Quantum supremacy
- C) Entanglement of 1,000 qubits
- D) A stable logical qubit

15. What trend in augmented and virtual reality in 2024 involves the use of haptic gloves to provide sensations of weight or pressure?

A) Multi-Sensory Technology

- B) Mixed Reality
- C) Immersive Training
- D) Collaborative Working

16. Which country surpassed its renewable energy goal for 2030 six years early in 2024, by adding significant solar and wind power capacity?

A) China

- B) United States
- C) Germany
- D) India

17. In 2024, electric vehicles are projected to account for what percentage of the global automotive market?

A) 16.5%

- B) 5%
- C) 10.2%
- D) 25%

18. What technology, highlighted in 2024 for semiconductor advancements, involves creating functional semiconductors entirely from graphene?

A) Graphene semiconductors

B) Silicon carbide transistors

C) Gallium nitride (GaN) devices

D) Fin Field-Effect Transistors (FinFETs)