South Korea's Tech Frontier: Navigating Global Shocks in Semiconductors, B

South Korean Science & Economy · Practice Test · 10 Questions

1. Amidst global geopolitical tensions, particularly the US-Israel-Iran conflict, what key semiconductor manufacturing material sourced from the Middle East poses a significant risk to South Korea's dominant position in the global memory chip market due to its limited production locations?

A) Neon
B) Helium
C) Argon
D) Xenon

2. The US-China rivalry and initiatives like the Biosecure Act are creating a strategic bind for South Korea's biotechnology sector. Given China's role as South Korea's largest exporter of drug substances in 2022, what is a primary concern for Korean biotech firms regarding these geopolitical shifts?

A) Reduced access to Chinese markets and potential trade curbs impacting business.
B) Increased competition from Indian pharmaceutical companies.
C) A sudden decrease in demand for APIs globally.
D) The need to shift all research and development to the United States.

3. South Korea's AI talent retention has been a growing concern, ranking 35th among OECD member states in 2024. What is a key strategy the South Korean government is implementing to address this challenge and foster an innovation ecosystem?

A) Imposing stricter regulations on AI research.
B) Focusing solely on attracting foreign AI talent.
C) Implementing an 'industry demand-driven' strategy to cultivate and embed professionals in core domestic industries.
D) Reducing investment in AI research infrastructure.

4. The global demand for high-bandwidth memory (HBM) is crucial for AI systems, positioning South Korea as a critical 'supply line'. Which company has established itself as a core supplier in Nvidia's HBM supply chain, significantly impacting its role in the AI era?

A) Samsung Electronics
B) SK Hynix
C) LG Energy Solution
D) Hyundai Motor Company

5. South Korea's semiconductor industry is highly dependent on the Middle East for critical materials. If conflicts in the region prolong, what additional cost pressures, besides material supply disruption, could impact chip production?

A) Increased labor costs due to worker shortages.
B) Higher energy costs due to rising oil prices.
C) A decrease in demand for semiconductors from the automotive sector.
D) The need for extensive environmental cleanup due to pollution.

6. In the context of global technological competition, South Korea aims to become a 'top 3 global AI power'. What significant investment has the government announced to nurture AI talent across all life stages and prevent 'brain drain'?

A) A 500 billion won investment in AI education infrastructure.
B) A 1.4 trillion won investment to nurture AI talent from elementary school to postgraduate researchers.
C) A 2 trillion won fund for AI startups and ventures.
D) A 750 billion won initiative focused on attracting foreign AI researchers.

7. China's rapid advancement in technologies, including secondary batteries, is narrowing the gap with South Korea. According to a 2026 assessment by South Korea's Ministry of Science and ICT, what is the observed trend in the technological distance between South Korea and China in strategic technologies?

A) The technological distance has remained constant.
B) China has begun to surpass South Korea in secondary batteries.
C) South Korea has widened its lead in all strategic technologies.
D) The technological gap has significantly decreased in favor of South Korea.

8. The US-China biotech rivalry presents both challenges and potential benefits for South Korea. While South Korea is identified as a potential beneficiary, what is a significant risk factor for its biotech industry due to its heavy reliance on China for Active Pharmaceutical Ingredient (API) supply?

A) The development of a superior vaccine technology by China.
B) A shift in global pharmaceutical pricing, making Korean drugs uncompetitive.
C) Potential trade curbs or sanctions impacting business due to geopolitical tensions.
D) The emergence of new, cheaper biomanufacturing techniques in India.

9. South Korea's electric vehicle (EV) market is experiencing rapid growth. In 2025, what percentage of total vehicle sales was the EV market projected to reach, indicating significant mass-market adoption?

A) 5%
B) 10%
C) 15%
D) 20%

10. The global semiconductor hegemony battle is reshaping into a multipolar system. Within this structure, South Korea has emerged as a critical 'supply line' for the AI era. Which specific type of memory is South Korea, particularly companies like SK Hynix and Samsung Electronics, excelling in for AI systems?

A) DRAM (Dynamic Random-Access Memory)
B) SRAM (Static Random-Access Memory)
C) HBM (High Bandwidth Memory)
D) NAND Flash Memory