

Easy

Deputy Executive Engineer (Electrician)

2026

Gujarat Public Service Commission / Assistant Engineer (Electrical)

Consider the following statements regarding Semiconductor Memories: 1. SRAM uses bistable flip-flops for data storage and offers faster access speed compared to DRAM.

A

1 and 2 only

Correct

B

2 and 3 only

C

1 and 3 only

D

1, 2 and 3

Correct Answer: A

Full Detailed Explanation

Correct Answer: A - 1 and 2 only Quick Concept Explanation SRAM stores each bit in a bistable latch/flip-flop-like cell and does not need refresh while powered, giving fast access at the cost of area. DRAM stores charge on a capacitor, requires periodic refresh, and achieves higher density and lower cost per bit but is generally slower than SRAM. Exam focus: Fast/cache SRAM; dense/main memory DRAM. Common trap: DRAM is not faster or more expensive per bit than SRAM. Statement-wise Verification Statement 1 - Correct. SRAM uses bistable flip-flops for data storage and offers faster access speed compared to DRAM. SRAM stores each bit in a bistable latch/flip-flop-like cell and does not need refresh while powered, giving fast access at the cost of area. Statement 2 - Correct. DRAM stores data as charge on capacitors and requires periodic refreshing to maintain data integrity. DRAM stores charge on a capacitor, requires periodic refresh, and achieves higher density and lower cost per bit Statement 3 - Incorrect. DRAM is faster and more expensive than SRAM due to its higher density. SRAM is faster and more expensive per bit; DRAM is denser and requires refresh Core Concept SRAM stores each bit in a bistable latch/flip-flop-like cell and does not need refresh while powered, giving fast access at the cost of area. DRAM stores charge on a capacitor, requires periodic refresh, and achieves higher density and lower cost per bit