

Easy

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Consider the following statements regarding Stack in 8051: 1. Stack operates on LIFO principle. 2. PUSH increases stack pointer. 3. POP decreases stack pointer. Which

A

1 and 2 only

B

2 and 3 only

C

1 and 3 only

D**1, 2 and 3****Correct**

Correct Answer: D

Full Detailed Explanation

Correct Answer: D - 1, 2 and 3
Quick Concept Explanation The classic 8051 is an 8-bit Harvard-style microcontroller with separate code and data spaces. On reset the stack pointer is 07H, so the first PUSH stores at 08H. Key relation: Reset SP=07H; classic internal RAM=128 bytes; standard ROM=4 KB. Exam focus: Remember 07H for stack pointer reset. Common trap: 00H is not the reset value of the 8051 stack pointer. Statement-wise Verification Statement 1 - Correct. Stack operates on LIFO principle. Remember 07H for stack pointer reset. Statement 2 - Correct. PUSH increases stack pointer. On reset the stack pointer is 07H, so the first PUSH stores at 08H. Statement 3 - Correct. POP decreases stack pointer. Remember 07H for stack pointer reset. Core Concept The classic 8051 is an 8-bit Harvard-style microcontroller with separate code and data spaces. The standard core has 4 KB on-chip program ROM and 128 bytes internal RAM, supports external memory, multiple interrupts and configurable interrupt priority. On reset the stack pointer is 07H, so the first PUSH stores at 08H. Formula / Key Relationship Reset SP=07H; classic internal RAM=128 bytes; standard ROM=4 KB. Why the Other Options Are Wrong Option A is incorrect because it omits correct statement(s) 3. Option B is incorrect because it omits correct statement(s) 1. Option C is incorrect because it omits correct statement(s) 2. Exam