

Easy

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Consider the following statements regarding 8051 Addressing modes: 1. Immediate addressing includes operand in instruction. 2. Direct addressing uses memory

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. The standard core has 4 KB on-chip program ROM and 128 bytes internal RAM, supports external memory, multiple interrupts and configurable interrupt priority. 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.Immediate addressing includes operand in instruction.Remember 07H for stack pointer reset. Statement 2 - Correct.Direct addressing uses memory address explicitly.The standard core has 4 KB on-chip program ROM and 128 bytes internal RAM, supports external memory, multiple interrupts and configurable interrupt priority. Statement 3 - Correct.Indirect addressing uses register to hold address.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;