

Easy

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Consider the following statements: 1. A microprocessor is a programmable digital device that performs arithmetic and logic operations. 2. Control unit generates timing

A**1 and 2 only****Correct****B****2 and 3 only****C****1 only****D****1, 2 and 3**

Correct Answer: A

Full Detailed Explanation

Correct Answer: A - 1 and 2 only Quick Concept Explanation A CPU can be viewed as datapath + control. The datapath contains registers and ALU; the control unit decides which operation

occurs and when, including read/write control signals to memory and I/O. Key relation:

Conceptual data path: Memory/I-O buses/registers ALU registers; control unit generates READ, WRITE, enable and timing signals.Exam focus: ALU = compute; control unit = coordinate; registers = fast temporary storage. Common trap: Attributing every CPU action,

including memory bus control, to the ALU. Statement-wise Verification Statement 1 - Correct.A microprocessor is a programmable digital device that performs arithmetic and logic operations.A

microprocessor is a programmable digital processor executing arithmetic, logic, data-transfer and control instructions. Statement 2 - Correct.Control unit generates timing and control signals.The control unit decodes instructions and generates sequencing, timing and control

signals. Statement 3 - Incorrect.ALU performs memory read/write operations.The ALU does not itself perform memory read/write bus cycles; it operates on data supplied to it, while the control unit/address/data-bus circuitry manages memory transactions. Core Concept A CPU can be

viewed as datapath + control. The datapath contains registers and ALU; the control unit decides