

Easy

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Consider the following statements regarding Programmable Logic Devices: 1. Programmable Logic Devices allow implementation of combinational logic without

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 Programmable logic devices realize logic functions through programmable interconnect arrays. A PLA provides programmable AND and OR planes for high flexibility, while a PAL traditionally has a programmable AND plane and fixed OR plane. Key relation: PLA: programmable AND + programmable OR; PAL: programmable AND + fixed OR. Exam focus: Use PLA for flexibility; PAL for simpler/faster structures. Common trap: Do not swap PLA and PAL programmability. Statement-wise Verification Statement 1 - Correct. Programmable Logic Devices allow implementation of combinational logic without fixed hardware connections. A PAL traditionally has a programmable AND plane and fixed OR plane. Statement 2 - Correct. PLA allows both AND and OR arrays to be programmable, offering maximum flexibility. A PLA provides programmable AND and OR planes for high flexibility Statement 3 - Correct. PAL provides programmable AND array while keeping OR array fixed. A PLA provides programmable AND and OR planes for high flexibility, while a PAL traditionally has a programmable AND plane and fixed OR plane. Core Concept Programmable logic devices realize logic functions through programmable interconnect arrays. A PLA provides programmable AND and OR planes for high flexibility, while a PAL traditionally has a programmable AND plane and fixed OR plane. Formula / Key Relationship