

3 Hardware – Part 2 — Answers

Answers

3.1 An optical disc (CD / DVD).

3.2 It is faster and has no moving parts (so more robust / silent / lower power). (Any one.)

3.3 1, 1, 1, 0 (NAND is 0 only when both inputs are 1).

3.4 XOR outputs 0 when the inputs are the **same** (0, 0 and 1, 1); it outputs 1 when they **differ** (0, 1 and 1, 0).

3.5 $X = (A \text{ AND } B) \text{ OR } C$.

3.6 NAND is defined as AND followed by NOT, and NOT flips its input — so for every input combination the NAND output is the AND output inverted.

3.7 $X = (A \text{ AND NOT } B) \text{ OR } (\text{NOT } A \text{ AND } B)$ — it is 1 when exactly one of A, B is 1.