

Exam

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The carry output of a half-adder circuit can be expressed as _____.
A) $C_{out} = AB$ B) $C_{out} = A \oplus B$ C) $C_{out} = A + B$ D) None of these 1) _____

2) The expression $A \oplus B$ represents _____.
A) The carry output of a full-adder B) The summing output of a full-adder
C) The summing output of a half-adder D) The carry output of a half-adder 2) _____

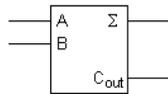


Figure 6-1

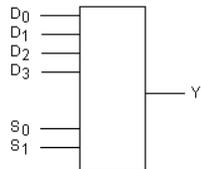
3) The symbol in Figure 6-1 represents a(n) _____.
A) AND function B) PLD C) Half-adder D) Full-adder 3) _____

4) Refer to the symbol in Figure 6-1. When $A = 0$ and $B = 1$, _____.
A) $\Sigma = 1, C_{out} = 0$ B) $\Sigma = 0, C_{out} = 1$ C) $\Sigma = 0, C_{out} = 0$ D) $\Sigma = 1, C_{out} = 1$ 4) _____

5) What is the major difference between half-adders and full-adders?
A) Full-adders can handle double digit numbers.
B) Half-adders can only handle single digit numbers.
C) Full-adders have a carry input capability.
D) Nothing basically; full-adders are made up of two half-adders. 5) _____

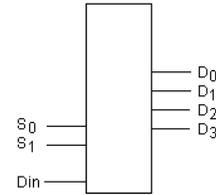
6) A BCD-to-decimal decoder has _____ data input lines and _____ data output lines.
A) 7,9 B) 10,10 C) 4, 10 D) 1,10 6) _____

7) The circuit below is most likely a _____. 7) _____



A) full-adder B) demultiplexer C) comparator D) multiplexer

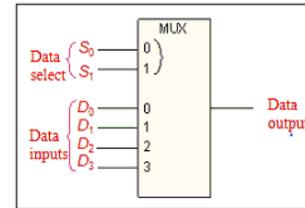
8) The circuit below is most likely a _____. 8) _____



A) demultiplexer B) multiplexer C) full-adder D) comparator

9) A device that is used to switch one of several input lines to a single output line is called a _____.
A) multiplexer B) demultiplexer C) decoder D) comparator 9) _____

10) If the data select lines of the MUX are $S_1 S_0 = 11$, the output will be _____. 10) _____



A) equal to D_3 B) equal to D_0 C) HIGH D) LOW

11) What distinguishes the look-ahead-carry adder? 11) _____

- A) It is easier to implement logically than a full-adder.
- B) It is slower than the ripple-carry adder.
- C) It is faster than a ripple-carry adder.
- D) It requires advance knowledge of the final answer.

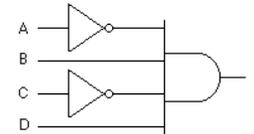


Figure 6-3

12) The output of the decoder in Figure 6-3 will be 1 only when _____. 12) _____

- A) $A = 0, B = 1, C = 0, D = 1$ B) $A = 1, B = 1, C = 1, D = 1$
- C) $A = 0, B = 0, C = 0, D = 0$ D) $A = 1, B = 0, C = 1, D = 0$

Answer Key

Testname: TEST C5

- 1) A
- 2) C
- 3) C
- 4) A
- 5) C
- 6) C
- 7) D
- 8) A
- 9) A
- 10) A
- 11) C
- 12) A