Quizzes: Chapter 04

1. _____ is an arithmetic operation.
   a. The exclusive OR
   b. The unary NOT
   c. Subtraction
   d. The binary AND
   Correct Answer: (c)

2. _____ is a logical bit operator.
   a. The exclusive OR
   b. The unary NOT
   c. The binary AND
   d. exclusive OR, unary NOT, or binary AND
   Correct Answer: (d)

3. The _____ method of integer representation is the most common method for storing integers in computer memory.
   a. sign-and-magnitude
   b. one's complement
   c. two's complement
   d. unsigned integers
   Correct Answer: (c)

4. In two's complement addition, if there is a final carry after the left most column addition, _____.
   a. add it to the right most column
   b. add it to the left most column
   c. discard it
   d. increase the bit length

Correct Answer: (c)

5. For an 8-bit allocation, the smallest decimal number that can be represented in two's complement form is _____.
   a. −8
   b. −127
   c. −128
   d. −256
   Correct Answer: (c)

6. For an 8-bit allocation, the largest decimal number that can be represented in two's complement form is _____.
   a. 8
   b. 127
   c. 128
   d. 256
   Correct Answer: (b)

7. In two's complement representation with a 4-bit allocation, we get _____ when we add 1 to 7.
   a. 8
   b. 1
   c. −7
   d. −8
   Correct Answer: (d)

8. In two's complement representation with a 4-bit allocation, we get _____ when we add 5 to 5.
   a. −5
   b. −6
   c. −7
   d. 10
   Correct Answer: (b)

9. If the exponent in Excess_127 is binary 10000101, the exponent in decimal is _____.

a. 6
b. 7
c. 8
d. 9

Correct Answer: (a)

10. If we are adding two numbers, one of which has an exponent value of 7 and the other an exponent value of 9, we need to shift the decimal point of the smaller number _____.
    a. one place to the left
    b. one place to the right
    c. two places to the left
    d. two places to the right

    Correct Answer: (c)

11. _____ operator (s) takes two inputs to produce one output.
    a. Only AND
    b. Only OR
    c. Only XOR
    d. AND, OR, or XOR

    Correct Answer: (d)

12. The unary _____ operator inverts its single input.
    a. AND
    b. OR
    c. NOT
    d. XOR

    Correct Answer: (c)

13. _____ operator (s), if the input is two 0s, the output is 0.
    a. In only AND
    b. In only OR
    c. In only XOR
    d. In AND, OR, or XOR

    Correct Answer: (d)

14. _____ operator (s), if the input is two 1s, the output is 0.
    a. In only AND
    b. In only OR
    c. In only XOR
    d. In AND, OR, or XOR
    Correct Answer: (c)

15. For the binary AND operation, only an input of _____ gives an output of 1.
    a. two 0s
    b. two 1s
    c. one 0 and one 1
    d. two 2s
    Correct Answer: (b)

16. For the binary OR operation, only an input of _____ gives an output of 0.
    a. two 0s
    b. two 1s
    c. one 0 and one 1
    d. two 2s
    Correct Answer: (a)

17. We use a bit pattern called a _____ to modify another bit pattern.
    a. mask
    b. carry
    c. float
    d. byte
    Correct Answer: (a)

18. To flip all the bits of a bit pattern, make a mask of all 1s and then _____ the bit pattern and the mask.
    a. AND
    b. OR
    c. XOR
    d. NOT

Correct Answer: (c)

19. To un-set (force to 0) all the bits of a bit pattern, make a mask of all 0s and then _____ the bit pattern and the mask.
    a. AND
    b. OR
    c. XOR
    d. NOT

    Correct Answer: (a)

20. To set (force to 1) all the bits of a bit pattern, make a mask of all 1s and then _____ the bit pattern and the mask.
    a. AND
    b. OR
    c. XOR
    d. NOT

    Correct Answer: (b)