Quizzes: Chapter 3

1. A byte consists of _____ bits.
   a. 2
   b. 4
   c. 8
   d. 16
   Correct Answer: (c)

2. In a set of 64 symbols, each symbol requires a bit pattern length of _____ bits.
   a. 4
   b. 5
   c. 6
   d. 7
   Correct Answer: (c)

3. How many symbols can be represented by a bit pattern with ten bits?
   a. 128
   b. 256
   c. 512
   d. 1024
   Correct Answer: (d)

4. If the ASCII code for E is 1000101, then the ASCII code for e is _____. Answer the question without consulting the ASCII table.
   a. 1000110
   b. 1000111
   c. 0000110
   d. 1100101

Correct Answer: (d)

5. A 32-bit code called _____ represents symbols in all languages.
   a. ANSI
   b. Unicode
   c. EBCDIC
   d. Extended ASCII
   Correct Answer: (b)

6. An image can be represented in a computer using the _____ method.
   a. bitmap graphic only
   b. vector graphic only
   c. Excess system only
   d. either bitmap or vector graphic
   Correct Answer: (d)

7. In the _____ graphic method of representing an image in a computer, each pixel is assigned a bit patterns.
   a. bitmap
   b. vector
   c. quantized
   d. binary
   Correct Answer: (a)

8. In the _____ graphic method of representing an image in a computer, the image is decomposed into a combination of geometrical figures.
   a. bitmap
   b. vector
   c. quantized
   d. binary
   Correct Answer: (b)

9. In the _____ graphic method of representing an image in a computer, re-scaling of the image creates a ragged or grainy image.

a. bitmap
b. vector
c. quantized
d. binary

Correct Answer: (a)

10. When we want to store music in a computer, the audio signal must be _____.
a. sampled only
b. quantized only
c. coded only
d. sampled, quantized, and coded

Correct Answer: (d)

11. A floating-point value after normalization is $(1.0101) \times 2^{-4}$. What is the value of exponent section in the Excess-127 representation?
a. 4
b. -4
c. 127
d. 123

Correct Answer: (d)

12. Assume a new Excess system uses 17 bits to represent the exponent section. What is he bias value in this system?
a. 17
b. 16
c. 65535
d. 65536

Correct Answer: (c)

13. Which number representation method is often used to store the exponential value of a fractional part?
a. unsigned integers
b. two's complement
c. Excess
d. ten's complement

Correct Answer: (c)

14. In an Excess conversion, we _____ the number to be converted.

a. add the bias number to
b. subtract the bias number from
c. multiply the bias number by
d. divide the bias number by

Correct Answer: (a)

15. When a fractional part is normalized, the computer stores the _____.

a. only the sign
b. only the exponent
c. only the mantissa
d. the sign, exponent, and mantissa

Correct Answer: (d)

16. The precision of the fractional part of a number stored in a computer is defined by the _____.

a. sign
b. exponent
c. mantissa
d. last digit

Correct Answer: (c)

17. The combination of sign and mantissa of a real number in IEEE standard floating point format is stored as an integer in the _____ representation.

a. unsigned
b. sign-and-magnitude
c. two's complement
d. one's complement

Correct Answer: (b)