Sample Questions

Computer Programming

1. A 8-bit signed integer has the following range

   a. 0 to 255  
   b. -128 to 127  
   c. -255 to 254  
   d. 0 to 509

2. What will the output of the following code statements be?
   Integer x = 34.54, y = 20, z = -5 print (y > 50 AND z > 10 or x > 30)

   a. 0  
   b. 1  
   c. -1  
   d. 10

3. Annie makes a program to print the product of cubes of the first 10 whole numbers. She writes the following program

   integer x = 0 // statement 1
   integer sum = 0 // statement 2
   while ( x < 10 ) // statement 3
   {
     sum = x*x*x // statement 4
     x = x + 1 // statement 5
   }
   print sum // statement 6

   Is her program correct? If not, which statement will you modify to correct it?

   a. No error, the program is correct.  
   b. Statement 1  
   c. Statement 4  
   d. statement 6
4. I have a problem to solve that takes \( n \) as an input number. The problem has a property that given the solution for \((n-1)\), I can easily solve the problem for \( n \). Which programming technique will I use to solve such a problem?

   a. Iteration
   b. Decision-making
   c. Object Oriented Programming
   d. Recursion

5. Given integer \( x = 40, y = 35, z = 20, w = 10 \)
   Comment on the output of the following two statements
   \[ \text{print } x \times y / z - w \text{ print } x \times y / (z - w) \]
   a. Differ by 80
   b. Same
   c. Differ by 50
   d. Differ by 160

6. In which area of a class are data and function directly accessible outside the class?

   a. Public
   b. Private
   c. Protected
   d. None of these

7. Here is an infix notation \(((A+B) \times (C-(D-E)))^{(F+G)}\) Choose the correct postfix notation of the above from the given options.

   a. AB+CD*E--FG^+
   b. AB+C*DE--FG^+
   c. AB+C*DE-FG++
   d. A+BC*DE-FG++
8. If the depth of a tree is 3 levels, then what is the size of the tree?

   a. 2  
   b. 4  
   c. 6  
   d. 8  

9. One of the following options is a form of access used to add and remove nodes from a queue.

   a. LIFO  
   b. FIFO  
   c. Both LIFO and FIFO  
   d. None of these  

10. What is the time complexity of adding three matrices of size NXN cell-by-cell?

    a. O(N)  
    b. O(N^2)  
    c. O(N^3)  
    d. None of these