USCS401_SYCS_FUNDAMENTALS OF ALGORITHM SAMPLE QUESTIONS

1. An acyclic graph contains _____ cycles.
a) no   b) manyc) one   d) none of these

2. A graph in which every vertex is connected with every other vertex is called _____ graph.
a) complete b) directed   c) multi   d) none of these

3. _____ is a technique used for searching a vertex in a graph.
a) topological b) traversal c) minimum spanning d) none of these

4. Ω-notation provides an asymptotic _____ bound.
a)upper b) both upper and lower c) lower d) none of these

5. What is the advantage of recursive approach than an iterative approach?
    a) Consumes less memory
b) Less code and easy to implement
    c) Consumes more memory
d) More code has to be written

6. If there are multiple edges between pair of vertices, then such edges are called as _____edges.

a) parallel   b) manyc) adjacent   d) none of these

7. A directional graph is a graph in which all the edges are _____.
a) unidirectional   b) bidirectional c) a or b d) none of these

8. Traversal is a technique used for _____ a vertex in a graph.
a) Sorting   b) searching c) Both   d) none of these

9.Optimization of algorithm means _____

   a) making that algorithm fast by time and compact by space
   b) making that algorithm slow by time and large by space
   c) making that algorithm fast by time and large by space
   d) making that algorithm slow by time and compact by space

10. The complexity of Bubble sort algorithm is _____
a) O(n)b) O(log n)c) O(n^2)d) O(n log n)

11.Which line would make the implementation complete?
a) fibo(n) + fibo(n)
b) fibo(n) + fibo(n − 1)
c) fibo(n − 1) + fibo(n + 1)
d) fibo(n − 1) + fibo(n − 2)

12. If an optimal solution can be created for a problem by constructing optimal solutions for its subproblems, the problem possesses _____ property.
a) Overlapping subproblems
b) Optimal substructure
c) Memoization
d) Greedy

13.The algorithms like merge sort, quick sort and binary search are based on
   a) Greedy algorithm
   b) Divide and Conquer algorithm
   c) Hash table
   d) Parsing
14.The sub-problems in the dynamic programming are solved
   a) Dependently
   b) Independently
   c) Parallel
   d) Concurrent
15. How many cases are there under Master's theorem?
a)2
b) 3
c) 4
d) 5