1. A full binary tree with 2n+1 nodes contain

A. n leaf nodes **B. n non-leaf nodes**

C. n-1 leaf nodes D. n-1 non-leaf nodes

2. A binary tree in which if all its levels except possibly the last, have

the maximum number of nodes and all the nodes at the last level appear as far left as possible, is known as

**A. full binary tree.** B. AVL tree.

C. threaded tree. D. complete binary tree.

3. A linear list of elements in which deletion can be done from one end

(front) and insertion can take place only at the other end (rear) is known as a

**A. queue.** B. stack.

C. tree. D. linked list.

4. A full binary tree with n leaves contains

A. n nodes. B. log n 2 nodes.

**C. 2n -1 nodes.** D. n 2 nodes.

5. The searching technique that takes O (1) time to find a data is

A. Linear Search B. Binary Search

**C. Hashing** D. Tree Search

6. You have to sort a list L consisting of a sorted list followed by a few

"random" elements. Which of the following sorting methods would be especially suitable for sucha task?

A. Bubble sort B. Selection sort

C. Quick sort **D. Insertion sort**

7. The number of interchanges required to sort 5, 1, 6, 2 4 in ascending

order using Bubble Sort is

A. 6 **B. 5**

C. 7 D. 8

8. In worst case Quick Sort has order

A. O (n log n) **B. O (n2/2)**

C. O (log n) D. O (n2/4)

9. A sort which relatively passes through a list to exchange the first

element with any element less than it and then repeats with a new first element is called

A. insertion sort. B. selection sort.

C. heap sort. **D. quick sort.**

10. Which of the following sorting algorithms does not have a worst case

running time of ( 2 ) O n ?

(A) Insertion sort  **(B) Merge sort**

(C) Quick sort (D) Bubble sort

11. Which design pattern you would you use to control the creation of an object

based on a established interface,while allowing the concrete implementation to determine the subclass to

construct.

A. Singleton design pattern

B. Builder Factory design pattern

C. Prototype factory design pattern

**D. Factory method design pattern**