Data Structure

1. Which of the following data structure is not linear data structure?

**A. Arrays** B. Linked lists

C. Both of above D. None of above

2. Which of the following data structure is linear data structure?

A. Trees B. Graphs

**C. Arrays**  D. None of above

3. The operation of processing each element in the list is known as

A. Sorting B. Merging

C. Inserting **D. Traversal**

4.Arrays are best data structures

**A. for relatively permanent collections of data //**

B. for the size of the structure and the data in the structure are constantly changing

C. for both of above situation

D. for none of above situation

5. Linked lists are best suited

A. for relatively permanent collections of data

**B. for the size of the structure and the data in the structure are constantly changing**

C. for both of above situation

D. for none of above situation

6. 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.

7. If a node having two children is deleted from a binary tree, it is replaced by its

A. Inorder predecessor **B. Inorder successor**

C. Preorder predecessor D. None of the above

8. 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

9. If a node in a BST has two children, then its inorder predecessor has

A. no left child **B. no right child**

C. two children D. no child

10. 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.

11. 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.

12. A full binary tree with n leaves contains

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

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

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

A. Linear Search B. Binary Search

**C. Hashing**  D. Tree Search

14. 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**

15. 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

16. In worst case Quick Sort has order

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

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

17. 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.**

18. 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