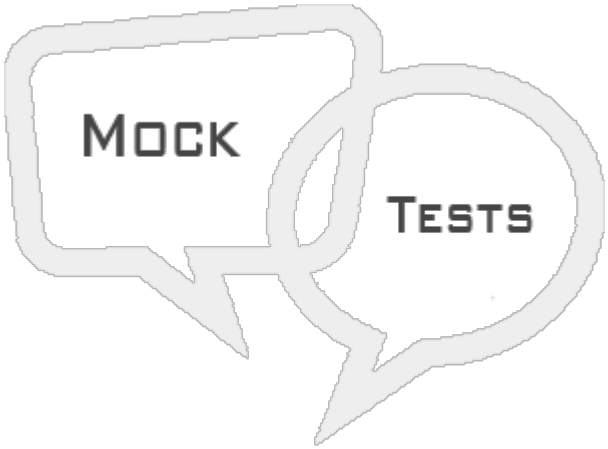
DATA STRUCTURES ALGORITHMS MOCK TEST

This section presents you various set of Mock Tests related to **Data Structures Algorithms**. You can download these sample mock tests at your local machine and solve offline at your convenience. Every mock test is supplied with a mock test key to let you verify the final score and grade yourself.



DATA STRUCTURES ALGORITHMS MOCK TEST II

Q 1 - Quick sort algorithm is an example of

A - Greedy approach

B - Improved binary search

C - Dynamic Programming

D - Divide and conquer

Q 2 - Which of the following asymptotic notation is the worst among all?

A - $On + 9378$

B - $O(n^3)$

C - n^{O1}

D - 2^{On}

Q 3 - The following formular is of

```
left_subtree (keys)  ≤  node (key)  ≤  right_subtree (keys)
```

A - Bianry Tree

B - Complete Binary Tree

C - Binary Search Tree

D - All of the above

Q 4 - Travelling salesman problem is an example of

A - Dynamic Algorithm

B - Greedy Algorithm

C - Recursive Approach

D - Divide & Conquer

Q 5 - Find the odd out

A - Prim's Minimal Spanning Tree Algorithm

B - Kruskal's Minimal Spanning Tree Algorithm

C - Floyd-Warshall's All pair shortest path Algorithm

D - Dijkstra's Minimal Spanning Tree Algorithm

Q 6 - Which of the following searching techniques do not require the data to be in sorted form

A - Binary Search

B - Interpolation Search

C - Linear Search

D - All of the above

Q 7 - Minimum number of spanning tree in a connected graph is

A - n

B - $n^{n - 1}$

C - 1

D - 0

Q 8 - Visiting root node after visiting left and right sub-trees is called

A - In-order Traversal

B - Pre-order Traversal

C - Post-order Traveral

Q 9 - Binary search tree has best case run-time complexity of O*logn*. What could the worst case?

A - O*n*

B - $O(n^2)$

C - $O(n^3)$

D - None of the above

Q 10 - The minimum number of edges required to create a cyclid graph of n vertices is

A - n

B - n - 1

C - n + 1

D - 2n

Q 11 - Maximum degree of any vertex in a simple graph of vertices n is

A - 2n - 1

B - n

C - n + 1

D - n - 1

Q 12 - What could be the worst case height of an AVL tree?

A - 0.97 log n

B - 2.13 log n

C - 1.44 log n

D - n^2 log n

Q 13 - What is not true about insertion sort?

A - Exhibits the worst case performance when the initial array is sorted in reverse order.

B - Worst case and average case performance is $O(n^2)$

C - Can be compared to the way a card player arranges his card from a card deck.

D - None of the above!

Q 14 - Which of the following algorithm is not stable?

A - Bubble Sort

B - Quick Sort

C - Merge Sort

D - Insertion Sort

Q 15 - If the array is already sorted, which of these algorithms will exhibit the best performance

A - Merge Sort

B - Insertion Sort

C - Quick Sort

D - Heap Sort

Q 16 - Which of the following is example of in-place algorithm?

A - Bubble Sort

B - Merge Sort

C - Insertion Sort

D - All of the above

Q 17 - Graph traversal is different from a tree traversal, because

A - trees are not connected.

B - graphs may have loops.

C - trees have root.

D - None is true as tree is a subset of graph.

Q 18 - Which method can find if two vertices x & y have path between them?

A - Depth First Search

B - Breadth First Search

C - Both A & B

D - None A or B

Q 19 - Time complexity of Depth First Traversal of is

A - $\Theta|V| + |E|$

B - $\Theta|V|$

C - $\Theta|E|$

D - $\Theta|V| * |E|$

Q 20 - An algorithm is

A - a piece of code to be executed.

B - a loosely written code to make final code.

C - a step by step procedure to solve problem.

D - all of the above.

Q 21 - Apriory algorithm analysis does not include −

A - Time Complexity

B - Space Complexity

C - Program Complexity

D - None of the above!

Q 22 - Which of the below given series is Non-Increasing Order −

A - 1, 3, 4, 6, 8, 9

B - 9, 8, 6, 4, 3, 1

C - 9, 8, 6, 3, 3, 1

D - 1, 3, 3, 6, 8, 9

Q 23 - Which of the following has search effeciency of O1 −

A - Tree

B - Heap

C - Hash Table

D - Linked-List

Q 24 - After each iteration in bubble sort

A - at least one element is at its sorted position.

B - one less comparison is made in the next iteration.

C - Both A & B are true.

D - Neither A or B are true.

Q 25 - What about recursion is true in comparison with iteration?

A - very expensive in terms of memory.

B - low performance.

C - every recursive program can be written with iteration too.

D - all of the above are true!

ANSWER SHEET

Question Number	Answer Key
1	D
2	D
3	C

4	B
5	C
6	C
7	C
8	C
9	A
10	A
11	D
12	C
13	D
14	B
15	B
16	B
17	C
18	C
19	A
20	C
21	C
22	C
23	C
24	C
25	D