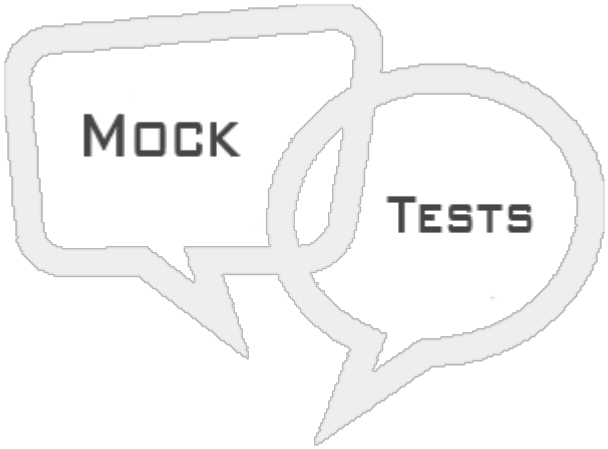
DATA STRUCTURES ALGORITHMS MOCK TEST

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 IV

Q 1 - Recursion uses more memory space than iteration because

A - it uses stack instead of queue.

B - every recursive call has to be stored.

C - both A & B are true.

D - None of the above are true.

Q 2 - Heap is an example of

A - complete binary tree

B - spanning tree

C - sparse tree

D - binary search tree

Q 3 - In a min heap

A - minimum values are stored.

B - child nodes have less value than parent nodes.

C - parent nodes have less value than child nodes.

D - maximum value is contained by the root node.

Q 4 - In the deletion operation of max heap, the root is replaced by

A - next available value in the left sub-tree.

B - next available value in the right sub-tree.

C - any random value from the heap.

D - last element of the last level

Q 5 - All possible spanning trees of graph G

A - have same number of edges and vertices.

B - have same number of edges and but not vertices.

C - have same number of vertices but not edges.

D - depends upon algorithm being used.

Q 6 - From a complete graph, by removing maximum _____ edges, we can construct a spanning tree.

A - **e-n+1**

B - **n-e+1**

C - **n+e-1**

D - **e-n-1**

Q 7 - If we choose Prim's Algorithm for uniquely weighted spanning tree instead of Kruskal's Algorithm, then

A - we'll get a different spanning tree.

B - we'll get the same spanning tree.

C - spanning will have less edges.

D - spanning will not cover all vertices.

Q 8 - Re-balancing of AVL tree costs

A - $O1$

B - $Ologn$

C - On

D - $O(n^2)$

Q 9 - A balance factor in AVL tree is used to check

A - what rotation to make.

B - if all child nodes are at same level.

C - when the last rotation occured.

D - if the tree is unbalanced.

Q 10 - Binary search tree is an example of complete binary tree with special attributes.

A - BST does not care about complete binary tree properties.

B - BST takes care of complete binary tree properties.

C - It depends upon the input.

D - None of the above.

Q 11 - The following sorting algorithms maintain two sub-lists, one sorted and one to be sorted −

A - Selection Sort

B - Insertion Sort

C - Merge Sort

D - both A &am; B

Q 12 - If locality is a concern, you can use _____ to traverse the graph.

A - Breadth First Search

B - Depth First Search

C - Either BFS or DFS

D - None of the above!

Q 13 - Access time of a binary search tree may go worse in terms of time complexity upto

A - $O(n^2)$

B - $Onlogn$

C - On

D - $O1$

Q 14 - Shell sort uses

A - insertion sort

B - merge sort

C - selection sort

D - quick sort

Q 15 - A pivot element to partition unsorted list is used in

A - Merge Sort

B - Quick Sort

C - Insertion Sort

D - Selection Sort

Q 16 - A stable sorting alrithm −

A - does not crash.

B - does not run out of memory.

C - does not change the sequence of appearance of elements.

D - does not exists.

Q 17 - An adaptive sorting algorithm −

A - adapts to new computers.

B - takes advantage of already sorted elements.

C - takes input which is already sorted.

D - none of the above.

Q 18 - Interpolation search is an improved variant of binary search. It is necessary for this search algorithm to work that −

A - data collection should be in sorted form and equally distributed.

B - data collection should be in sorted form and but not equally distributed.

C - data collection should be equally distributed but not sorted.

D - None of the above.

Q 19 - If the data collection is in sorted form and equally distributed then the run time complexity of interpolation search is −

A - On

B - O1

C - O$logn$

D - O$log(logn)$

Q 20 - Which of the following algorithm does not divide the list −

A - linear search

B - binary search

C - merge sort

D - quick sort

Q 21 - The worst case complexity of binary search matches with −

A - interpolation search

B - linear search

C - merge sort

D - none of the above

Q 22 - Apriori analysis of an algorithm assumes that −

A - the algorithm has been tested before in real environment.

B - all other factors like CPU speed are constant and have no effect on implementation.

C - the algorithm needs not to be practical.

D - none of the above.

Q 23 - Aposterior analysis are more accurate than apriori analysis because −

A - it contains the real data.

B - it assumes all other factors to be dynamic.

C - it assumes all other factors to be constant.

D - it is a result of reverse-engineering.

Q 24 - Project scheduling is an example of

A - greedy programming

B - dynamic programming

C - divide and conquer

D - none of the above.

Q 25 - In conversion from prefix to postfix using stack data-structure, if operators and operands are pushed and popped exactly once, then the run-time complexity is −

A - $O1$

B - On

C - $Ologn$

D - $O(n^2)$

ANSWER SHEET

Question Number	Answer Key
1	B
2	A

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