## 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.

## Mack

## Tests

## DATA STRUCTURES ALGORITHMS MOCK TEST I

## Q 1 - What is the worst case time complexity of linear search algorithm?

A-O1
B - On
C-Ologn
D - O( $\mathrm{n}^{2}$ )

Q 2 - What is the worst case run-time complexity of binary search algorithm?
A $-\mathrm{O}\left(\mathrm{n}^{2}\right)$
$B-O\left(n^{\log n}\right)$
C-O( $\mathrm{n}^{3}$ )
D - On

## Q 3-Which of the following usees FIFO method

A - Queue
B - Stack
C - Hash Table
D - Binary Search Tree

## Q 4 - A complete graph can have

A $-n^{2}$ spanning trees
$B-n^{n-1}$ spanning trees
$\mathrm{C}-\mathrm{n}^{\mathrm{n}+1}$ spanning trees
D - $\mathrm{n}^{\mathrm{n}}$ spanning trees

## Q 5 - Which one of the below is not divide and conquer approach?

A - Insertion Sort
B - Merge Sort
C - Shell Sort
D - Heap Sort

## Q 6 - Prefix notation is alsow known as

A - Reverse Polish Notation
B - Reverse Notation
C - Polish Reverse Notation
D - Polish Notation

Q 7 - In order traversal of binary search tree will produce -
A - unsorted list
B - reverse of input
C - sorted list
D - none of the above

## Q 8 - In a min-heap:

A - parent nodes have values greater than or equal to their childs
$B$ - parent nodes have values less than or equal to their childs
C - both statements are true
D - both statements are wrong

Q 9-A procedure that calls itself is called
A - illegal call
B - reverse polish
C - recursive
D - none of the above

Q 10 - For a binary search algorithm to work, it is necessary that the array list must be
A - sorted
B - unsorted
C - in a heap
D - popped out of stack

Q 11 - push and pop functions are found in
A - queues
B - lists
C - stacks
D - trees

Q 12 - Queue data structure works on
A - LIFO
B - FIFO
C - FILO
D - none of the above

Q 13 - Maximum number of nodes in a binary tree with height $k$, where root is height 0 , is

A $-2^{k}-1$
B $-2^{k+1}-1$
C $-2^{k-1}+1$
D $-2^{k}-1$

Q 14 - Which one of the below mentioned is linear data structure -
A - Queue
B - Stack
C - Arrays
D - All of the above

Q 15-What data structure is used for depth first traversal of a graph?
A - queue
B - stack
C - list

D - none of the above

Q 16 - What data structure is used for breadth first traversal of a graph?
A - queue
B - stack
C - list
D - none of the above

Q 17 - What data structure can be used to check if a syntax has balanced paranthesis ?
A - queue
B - tree
C - list
D - stack

Q 18 - Postfix expression is just a reverse of prefix expression.
A - True
B - False

## Q 19 - Stack is used for

A - CPU Resource Allocation
B - Breadth First Traversal
C-Recursion
D - None of the above

Q 20 - A circular linked list can be used for
A - Stack
B - Queue
C - Both Stack \& Queue
D - Neither Stack or Queue

## Q 21-A linked-list is a dynamic structure

A - true
$B$ - false

Q 22 - Minimum number of moves required to solve a Tower of Hanoi puzzle is
$A-2^{n^{2}}$
$B-2^{n-1}$
C- $2^{n}-1$
D-2n-1

Q 23 - Which of the following is an example of dynamic programming approach?
A - Fibonacci Series
B - Tower of Hanoi
C - Dijkstra Shortest Path
D - All of the above

## Q 24 - The following formula will produce

$$
F_{n}=F_{n-1}+F_{n-2}
$$

A - Armstrong Number
B - Fibonacci Series
C - Euler Number
D - Prime Number

Q 25 - Minimum number of queues required for priority queue implementation?
A - 5
B-4
C-3
D-2

## ANSWER SHEET

Question Numbe

## Answer Key

B
D
A
B
B
D

| 7 | C |
| :--- | :--- |
| 8 | A |
| 9 | C |
| 10 | A |
| 11 | C |
| 12 | B |
| 13 | B |
| 14 | D |
| 15 | B |
| 16 | A |
| 17 | D |
| 18 | B |
| 19 | C |
| 20 | C |
| 21 | A |
| 22 | C |
| 23 | D |
| 24 | B |
| 25 | D |

