Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

An array x of 100 integers is declared as ,

Answer ( Please select your correct option )

- int x = [100] ;
- int x[100] ;
- integer array x = 100 ;
- integer x [] = 100 ;

Question No : 2 of 26 Marks: 1 (Budgeted Time 1 Min)

What is the maximum depth of recursive calls a function may make?

Answer ( Please select your correct option )

- 1
- 2
- n (where n is the argument)
- There is no fixed maximum

Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

A Linear Data Structure is the data structure in which data elements are arranged in a sequence or a linear list. Which of the following is Non Linear Data Structure?

Answer ( Please select your correct option )

- Arrays
- Linked Lists
- Binary Search Trees

**Correct answer solved by hadi**
**Cell No:03228043306**
**Email: usmanraj20@gmail.com**

- Stack

Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

The new operation in C++ for dynamically allocating memory returns,

Answer ( Please select your correct option )

- Size of the memory it has allocated
- Pointer to the memory it has allocated
- Both size and pointer to the memory it has allocated
- Value of the memory it has allocated

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

In_____, a programmer uses two pointers in the node, i.e. one to point to next node and the other to point to the previous node.

Answer ( Please select your correct option )

- Linked list



- Doubly-linked list
- Array
- Structure

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

The expression AB+C* is called ?

Answer ( Please select your correct option )

- Prefix expression
- Postfix expression
- Infix expression
- Prefix and Infix expression

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the function X as under

```
int X (int& Value)
{
return Value;
}
```

Now **a** and **b** are integers in a calling function. Which one of the following is a valid call to the above function X ?

Answer ( Please select your correct option )

- a = X (b) ;
- a = X (&b) ;
- a = X (*b) ;
- a = X (&*b) ;

**Correct answer solved by hadi**
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Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Each node in Binary Search Tree has

Answer ( Please select your correct option )

- 1 pointer
- 2 pointers
- 3 pointers
- 4 pointers

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

Suppose n is the number of nodes in a complete Binary Tree, then maximum steps required for a search operation are

Answer ( Please select your correct option )

- $Log_2 (n+1) - 1$



- $Log_2 (n+1)$
- $Log_2 (n) - 1$
- $Log_2 (n)$

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

The **next** field in the last node of a singly-linked list is set to_____.

Answer ( Please select your correct option )

- NAN
- 1
- NULL

**Correct answer solved by hadi**
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- -1

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following function:

```
void test_a(int n)
{
        cout << n << " ";
        if (n>0)
```

Answer ( Please select your correct option )

- 4 2 0
- 0 2 4
- 4 2
- 2 4

Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

A queue where the dequeue operation does not depend upon FIFO, is called :

Answer ( Please select your correct option )

- enqueue
- simple queue
- stack
- priority queue

Question No : 13 of 26 Marks: 1 (Budgeted Time 1 Min)

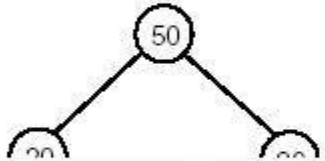
a * (b+c)-d is an example of --------- expression.

Answer ( Please select your correct option )

- infix
- prefix
- postfix
- allfix

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

Below is a Binary Search Tree (BST). If we delete the value 50 from the root node, what would be the value in the root of the remaining tree?

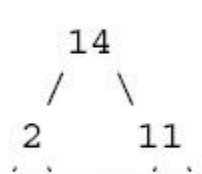



Answer ( Please select your correct option )

- 50
- 60
- 70
- 80

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree:




Answer ( Please select your correct option )

- 2
- 4
- 6
- 9

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

Which one of the following calling methods does not change the original value of the argument in the calling function?

Answer ( Please select your correct option )

- [x] Call by passing the value of the argument
- [ ] Call by passing reference of the argument
- [ ] Call by passing the address of the argument
- [ ] Call by passing pointer of the argument

Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following statement is NOT true for reference variable ?

Answer ( Please select your correct option )

- Once a reference is created, it cannot be later made to reference another object.
- References cannot be NULL
- References can be uninitialized.
- It is not possible to refer directly to a reference object after it is defined.

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

Searching an element in an AVL tree takes maximum _____ time (where n is number of nodes in AVL tree)

Answer ( Please select your correct option )

- $Log_2(n+1)$
- $Log_2(n+1) - 1$
- 1.44 $Log_2n$
- 1.66 $Log_2n$

**Correct answer solved by hadi**
**Cell No:03228043306**
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**Made By: Waqar Siddhu**

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

In the post-order traversal of a binary search tree, nodes process as:

Answer ( Please select your correct option )

- Left-subtree , Right-subtree , Root
- Right-subtree , Root , Left-subtree
- Left-subtree , Root , Right-subtree
- Right-subtree , Left-subtree , Root

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

The main use of AVL tree is:

Answer ( Please select your correct option )

- Searching of data



- Storing of data
- Insertion of data
- Security of data

Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

Each operator in a postfix expression refers to the previous _____ operand(s).

Answer ( Please select your correct option )

- One

**Correct answer solved by hadi**
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- Two
- Three
- Four

Question No : 2 of 26 Marks: 1 (Budgeted Time 1 Min)

Which one of the following statements is correct?

Answer ( Please select your correct option )

- Array size is fixed once it is created.
- Link List size is fixed once it is created.
- Binary Search Tree size is fixed once it is created
- AVL Tree size is fixed once it is created

Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

Linked list always contains elements that can be described as ,

Answer ( Please select your correct option )

- Redundant
- Recursive
- Self-referential.
- Bidirectional.

Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

One difference between a queue and a stack is:

Answer ( Please select your correct option )

- Queues require dynamic memory, but stacks do not.
- Stacks require dynamic memory, but queues do not.
- ▶ Queues use two ends of the structure; stacks use only one.
- Stacks use two ends of the structure, queues use only one.

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

Stack and Queue can be implemented using _____,

Answer ( Please select your correct option )

- Singly Link List

**Correct answer solved by hadi**
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- Binary Tree
- Binary Search Tree
- AVL Tree

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

New items are added at the _____of the stack.

Answer ( Please select your correct option )

- Bottom
- Middle
- Top
- Center

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

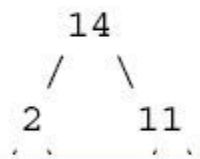
_____ is the stack characteristic but _____was implemented because of the size limitation of the array.

Answer ( Please select your correct option )

- isFull(),isEmpty()
- pop(), push()
- isEmpty() , isFull()
- push(),pop()

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree.




Answer ( Please select your correct option )

- 2
- 3
- 4
- 5

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

The difference between a "Binary Tree (BT)" and a "Binary Search Tree(BST)" is that ,

Answer ( Please select your correct option )

- A BST has two children per node whereas a BT can have none, one, or two children per node
- In BST, nodes are inserted based on the values they contain
- In BT, nodes are inserted based on the values they contain
- There is no difference

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following operations returns "most recently entered value" from the stack ?

Answer ( Please select your correct option )

- Push
- Recent
- ✔ Top

**Correct answer solved by hadi**
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- First

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following is correct about AVL Tree?

Answer ( Please select your correct option )

- It is identical to BST except height of the left and right subtrees can differ by at least 1.
- It is identical to BST except height of the left and right subtrees must differ by at least 1.
- It is not identical to BST, its totally different kind of tree.
- It is identical to BST except height of the left and right subtrees can differ by at most 1.

Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

What will be postfix expression of the following infix expression?
Infix Expression : a+b*c-d

Answer ( Please select your correct option )

- ab+c*d-
- abc*+d-
- abc+*d-
- abcd+*-

**Correct answer solved by hadi**
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Question No : 13 of 26 Marks: 1 (Budgeted Time 1 Min)

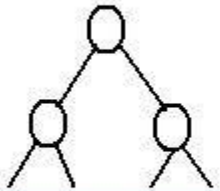
In the call by ..... methodology, a copy of the object is passed to the called function.

Answer ( Please select your correct option )

- Reference
- Value
- Reference & Value
- Copy of the object can not be passed

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree, how many levels does it has?

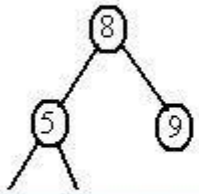


Answer ( Please select your correct option )

- One
- Two
- Three
- Seven

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree, which statement is correct about this tree.




Answer ( Please select your correct option )

- 3 and 5 are on the same level
- 7 is the parent of 3
- 9 is the root of this tree
- 5 is on the second level

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

Recursive call of a function use..... data structure.

Answer ( Please select your correct option )

- Linked List
- Queue
- Stack
- Table

**Correct answer solved by hadi**
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Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

In the statement **int& a= b;**

Answer ( Please select your correct option )

- a and b pointing to two different memory location
- a and b are two different names of the same memory location
- a and b are two different variable names
- b hold the address of variable a

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

The variables which are destroyed automatically when a function's execution ends are:

Answer ( Please select your correct option )

- Global variables
- Local variables defined inside function body



- Variables (objects) defined inside function body dynamically
- Variables (objects) defined inside function body statically

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

The worst case of searching in binary search tree (BST) is:

Answer ( Please select your correct option )

- When the data inserted in BST is sorted
- When the height of left sub-tree is greater than right sub-tree
- When the height of right sub-tree is greater than left sub-tree
- When the tree is balanced

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

In simple implementation of stack, isFull() method is used due to .....

Answer ( Please select your correct option )

- Limitation of array



- Strength of array
- Linked list connectivity
- Complexity of linked list

Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

Each node in singly link list has,

Answer ( Please select your correct option )

- 1 pointer
- 2 pointers
- 3 pointers
- 4 pointers

Question No : 2 of 26 Marks: 1 (Budgeted Time 1 Min)

Parameters in function call are passed using,

Answer ( Please select your correct option )

- Stack
- Queue
- Binary Search Tree
- AVL Tree

Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

The_____ method of list data structure removes the element residing at the current position.

Answer ( Please select your correct option )

- Add
- Next
- Remove
- Find

**Correct answer solved by hadi**
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Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

Insertion in a linked list can be done at

Answer ( Please select your correct option )

- Front only
- Back only
- Somewhere in middle only
- Front, back and somewhere in the middle

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

An array is a group of ---------- memory locations.

Answer ( Please select your correct option )

- Scattered
- Isolated
- Random(non-consecutive)
- Consecutive

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following applications may use a stack?

Answer ( Please select your correct option )

- Accessing shared resource
- Parentheses balancing program
- Buffering messages
- Waiting list

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

Every AVL is _____

Answer ( Please select your correct option )

- Ternary Tree
- Complete Binary Tree
- Heap
- Binary Search Tree

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following infix expression:
x – y * a + b / c
Which of the following is a correct equivalent expression for the above?

Answer ( Please select your correct option )

- x y -a * b +c /
- x *y a - b c / +
- d x y a * - b c / +
- x y a * - b/ + c

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

Non-recursive calls are faster than which of the following calls?

Answer ( Please select your correct option )

- Parameterized
- Recursive

**Correct answer solved by hadi**
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- Function
- Non-Function

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

The balance of a node is the result of "height of left subtree" ..... "height of right subtree".

Answer ( Please select your correct option )

- Plus
- Minus
- Multiply
- Divided by

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Searching an element in an AVL tree takes maximum _____ time (where n is number of nodes in AVL tree)

Answer ( Please select your correct option )

- $Log_2(n+1)$
- $Log_2(n+1) - 1$
- 1.44 $Log_2n$

**Correct answer solved by hadi**
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- 1.66 $Log_2n$

Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

A complete binary tree having "N" nodes consists of ..... Levels.

Answer ( Please select your correct option )

- Log2 (N+1) - 1
- Log2 (N-1) - 1
- Log2 (N+1) + 1
- Log2 (N-1) + 1

Question No : 13 of 26 Marks: 1 (Budgeted Time 1 Min)

In the post-order traversal of a binary search tree, nodes process as:

Answer ( Please select your correct option )

- Left-subtree , Right-subtree , Root

**Correct answer solved by hadi**
**Cell No:03228043306**
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- Right-subtree , Root , Left-subtree
- Left-subtree , Root , Right-subtree
- Right-subtree , Left-subtree , Root

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

The simplest case in a BST to delete a node is:

Answer ( Please select your correct option )

- When the node, that is to be deleted is root node
- When the node, that is to be deleted has both left and right child
- When the node, that is to be deleted has only one child
- When the node, that is to be deleted is a leaf node

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

If class A defines class B as its friend, then:

Answer ( Please select your correct option )

- Class A can access private members of class B
- Class B can access only the public members of class A
- Class A can access only the public members of class B
- Class B can access private members of class A

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

In the statement **int& a= b;**

Answer ( Please select your correct option )

- a and b pointing to two different memory location
- a and b are two different names of the same memory location
- a and b are two different variable names
- b hold the address of variable a

**Correct answer solved by hadi**
**Cell No:03228043306**
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Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

The main use of AVL tree is:

Answer ( Please select your correct option )

- Searching of data
- Storing of data
- Insertion of data
- Security of data

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

In simple implementation of stack, isFull() method is used due to .....

Answer ( Please select your correct option )

- (•) Limitation of array



- ( ) Strength of array
- ( ) Linked list connectivity
- ( ) Complexity of linked list

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

Write in postfix form: 5 * (9 – 7)

Answer ( Please select your correct option )

- 5 (9 7 -) *
- 5 9 * 7 -
- 5 9 7 - * ✓
- 5 (9 7 -)

Correct answer solved by hadi
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Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

What will be result of following postfix expression ?

**1 2 3** *+ **2** -

Answer ( Please select your correct option )

- 3
- 4 (3 + (2 * 9)) - 6 becomes 3 2 9 * + 6 -
- 5
- 10