

State True or False

1. The `///` symbol can be used for single line as well as multi line comments.
2. C++ does not recognize the comment symbols `/*` and `*/`.
3. C++ was originally known as 'C with classes'
4. Fundamental data types are those defined using the `typedef` keyword
5. Variables must be declared before they can be used.
6. In C++, variables can be declared anywhere within the program.
7. C++ is an Object Oriented Programming Language
8. The identifier `cout` is a predefined object that represents the standard output stream in C++
9. The operator `<<` (the bit wise left shift operator in C) is called the 'insertion' or 'put to' operator in C++.
10. The `>>` (bit-wise right shift operator in C) or the 'extraction' operator (used in `cin`) works similar to the `%s` specifier as used with the `scanf()` function.
11. The items in an array are called the elements of the array.
12. An array need not be defined before being used in a program.
13. An array can have more than two dimensions also.
14. A pointer is a variable that holds the address of another variable.
15. The unary operator `*` is used to obtain the value of whatever the pointer is pointing to.
16. It is dangerous to have uninitialised pointers in a program.
17. In AVL trees the height of each node should not be greater than one.
18. In BST the left node is always greater than its parent
19. In Binary search the list should be in any order
20. Tree is one of the efficient structure for maintenance of Data
21. A class declaration in C++ is similar to a struct declaration

Fill in the Blanks

1. C++ is the combination of two languages _____ and _____
2. The _____ or _____ operator inserts the contents of the variable on its right to be the object on its left
3. The object _____ is associated with the standard output stream.
4. The _____ header file must be included in all the programs that use input/output statements.
5. Dat types in C++ can be classified under the categories - _____ and _____.
6. _____, _____, _____ and _____ and the fundamental data types in C++
7. A _____ is a statement that introduces a variable to a program.
8. The 'insertion' operator inserts the contents of the variable on its _____ to the object on its _____. (right / left)
9. An _____ is a collection of elements of the same type that can be referenced either individually or together.
10. Each element of an 'array' can be referred to by the 'array name' and a _____.
11. The unary operator `*` is also called the _____ or _____ operator.
12. The _____ operator returns the address of a variable.

13. In B tree of order m , at leaf list, should at least have _____ no of nodes and at the most _____ no of nodes.

Short Questions

1. Name two techniques for maintenance of Dictionary
2. Give three methods to avoid collision and overflow problem in Hashing
3. Which type of sorting uses "Divide and conquer method"
4. Write the property of Max Heap and Min Heap
5. Explain different traverses of tree with example
6. Name different algorithms used for Pattern Matching

LAB PROGRAMS

1. Write a program find addition of data members of two different class using friend function
2. Write a program to sort a single link list.
3. write a program to sort a doubly link list
4. write a program to search a given key in singly link list
5. write a program to search a given key in doubly link list
6. Write a program to explain the concept of function overloading e.g. take a class having area as a member function which can find area of rectangle, circle and square.
7. Write a program to add two objects of a class and explain the concept of operator overloading.
8. create a class to print mark list of 5 students (take 3 subjects marks)
9. create a single level inheritance to print mark list of 5 students
10. Print mark list of 5 students using multilevel inheritance
11. write a program to concatenate two files
12. write a program to copy one file to another
13. write a program to copy first 10 lines of one file to another
14. write a program for hashing using arrays
15. write Stack ADT (using Template)
16. Write Queue ADT (using Template)
17. write a program for merge sort
18. write a program to implement two stacks in one array.
19. Create a BST and Write a routine for inorder traversal.
20. Create a BST and Write a routine for preorder traversal.
21. Create a BST and Write a routine for postorder traversal.

