1. What is C++? What are the advantages of c++?
2. What are the different data types present in c++?
3. Define ‘std’?
4. What are references in c++?
5. What do you mean by call by value and call by reference?
6. Define Tokens in c++?
7. What is difference between c and c++
8. What is the difference between struct and class?
9. What is the difference between pointer and reference?
10. What is the difference between function overloading and operator overloading?
11. What is the difference between arrays and lists?
12. What is the difference between while and do-while loop?
13. Discuss the difference between prefix and postfix?
14. What is the difference between new and malloc()?
15. ⭐ Difference between virtual and pure virtual function ?
16. What are classes and objects in c++?
17. What is function overriding?
18. What are various oops concepts in c++?
19. Explain Inheritance?
20. When should we use multiple inheritance?
21. What is virtual inheritance?
22. What is polymorphism in c++?
23. What are the different types of polymorphism in c++?
24. Compare between compile time and run time poly?
25. Explain the constructor in c++?
26. What is the default constructor?
27. What is the parameterized constructor?
28. What is the copy constructor?
29. What are the destructors in c++?
30. What is a virtual destructor?
31. Is destructor overloading possible?
32. Which operations are permitted on pointers?
33. What is the purpose of the ‘delete’ operator?
34. How is delete[] different from delete?
35. What do you know about friend class and friend function?
36. What is an overflow error?
37. What does the scope resolution operator do?
38. What are c++ access modifiers?
39. Can you compile a program without a main function?
40. ⭐ What is STL in C++ ?

41. Define inline function. Can we have a recursive inline function in c++?
42. ⭐What is an abstract class and when do you use it?
43. What are the static data members and static member functions?
44. ⭐What is the main use of the keyword “Volatile”?
45. Define storage class in c++ and name some?
46. What is a mutable Storage Class specifier? How can they be used?
47. Define the block Scope of a variable?
48. ⭐What is the function of the keyword “ Auto in C++”?
49. Define Namespace in C++
50.When is void() return type used?
51. What is the difference between Shallow copy VS Deep Copy ?
52. Can we call a virtual function from a constructor? YES
53. What are void pointers? → Can store value of any datatype
54. What is ‘*this* pointer in C++“ ?

1. What is the size of the data type?
2. Which operators cannot be overloaded?
3. What is used to return the number of character in string
4. How to input strings in c++ with spaces?
5. How to write a program to check if a number is a palindrome or not?
6. Write a program to find the factorial of a number?
7. How to find the frequency of a number in c++?
8. How would you deallocate and allocate memory in c++?
9. → new & delete
10. Difference between equal to(==) and assignment operator (=)
11. What does a segmentation fault denote in c++?
12. Difference between global and local variable
13. What exactly is multithreading in c++?
14. Explain how functions are classified in c++?
15. Explain what is c++ exception handling
16. What is data binding and abstraction
17. How can you specify a class in c++?
18. What is class template

19. Mention what are the types of member functions?
20. Explain what is upcasting in c++

What is containership?

Ans → It is one of the most important C++ interview questions and answers concepts. You can contain an object of one class into another, and that object will be a member of the other class. This relationship between classes wherein one class contains the object of another class is referred to as containership.

What is a singleton design pattern?

Ans → Design patterns are reusable solutions that you can apply to recurring Object-Oriented Design problems. Singleton design patterns fall under the category of Creational Design Patterns. This pattern helps design a class with a maximum of a single instance at any time. It cannot be instantiated further.

What do you understand about RTTI?

Ans → RTTI stands for Run-time type information. This mechanism gives information about an object's data type at runtime. It is available only for classes that have at least one virtual function. You can determine the type of an object during program runtime execution.

What is the sparse matrix?

Ans → An array of elements wherein many elements have a value of zero is called a sparse matrix. For instance, if you are given a matrix with several elements and the number of zeroes is more than half the elements of the matrix, then it is a sparse matrix.

What do you understand about Smart pointers?

Ans →Smart pointers are employed in garbage collection to ensure no memory leaks. If you use smart pointers, you need not call delete for any memory allocated dynamically as it is automatically deallocated. You can implement smart pointers in C++11 and higher versions. C++11 has the following four kinds of smart pointers:

1. auto_ptr
2. unique_ptr
3. shared_ptr
4. Weak_ptr.

What is the role of this pointer and void pointer?

Ans → **This pointer:** The 'this pointer' is present in the member functions of every object. It points to the object itself and can be used to access the object's data.

Void pointer: A pointer that has no data type associated with it is called a void pointer. You can assign any type of pointer to a void pointer, but the reverse isn't true unless you use it as follows **str=(char*) ptr;**

For coding rounds prepare :->

Array

String

Linkedlist

Sorting algorithm → quicksort, merge sort, heap sort etc

Hash tables and queues

Recursion

Trees and graphs

Graph algorithms, including greedy algorithm

Dynamic programming

Questions on coding →

1. Find max number in an array of integers?
2. Can you find out the sum of digits of a number?
3. Try to swap two numbers with a third variable?
4. Can you swap two numbers without a third variable?
5. Can you check whether a number is prime or not?
6. Write a program to find the reverse of a number?
7. Can you check whether a number is palindrome or not?
8. Find the factorial of a number?
9. Write c++ program to check whether a number is an Armstrong number or not.
10. Can you convert a decimal number to binary?
11. Can you convert binary to decimal?
12. Write a program to perform fibonacci series?
13. Write a c++ program to count all the vowels in a given string.
14. Can you search for an element in a given array?try to print that number if it is present else print -1.
15. Find GCD of two numbers.
16. Print out the fibonacci triangle.
17. Check if a year is a leap year or not?
18. Given an array of integers, sort the given array in ascending order.