

Syllabus of C++

✚ Introduction :

What is object oriented programming?
Why do we need object oriented Programming
characteristics of object-oriented languages
C and C++

✚ C++ Programming basics :

Output using cout
Directives.
Input with cin.
Type bool.
The setw manipulator.
Type conversions.

✚ Functions :

Returning values from functions.
Reference arguments.
Overloaded function.
Inline function.
Default arguments.
Returning by reference.

✚ Object and Classes :

Making sense of core object concepts (Encapsulation, Abstraction, Polymorphism, Classes, Messages Association, Interfaces)
Implementation of class in C++,
C++ Objects as physical object,
C++ object as data types constructor.
Object as function arguments.
The default copy constructor,
returning object from function.
Structures and classes.

Classes objects and memory static class data.
Const and classes.

✚ Arrays and string arrays fundamentals:

Arrays as class Member Data
Arrays of object,
String,
The standard C++ String class

✚ Operator overloading :

Overloading unary operations.
Overloading binary operators,
data conversion,
pitfalls of operators overloading and conversion keywords.
Explicit and Mutable.

✚ Inheritance :

Concept of inheritance.
Derived class and based class.
Derived class constructors,
member function,
inheritance in the English distance class,
class hierarchies,
inheritance and graphics shapes,
public and private inheritance,

✚ Aggregation :

Classes within classes,
inheritance and program development.

✚ Pointer :

Addresses and pointers.
The address of operator and pointer and arrays.
Pointer and Faction pointer and C-types string.

✚ Memory management :

New and Delete,
pointers to objects,
debugging pointers.

✚ Virtual Function :

Virtual Function,
friend function,
Static function,
Assignment and copy initialization,
this pointer,
dynamic type information.

✚ Streams and Files :

Streams classes,
Stream Errors,
Disk File I/O with streams,
file pointers,
error handling in file I/O with member function,
overloading the extraction and insertion operators,
memory as a stream object,
command line arguments,
and printer output.

✚ Templates and Exceptions :

Function templates,
Class templates Exceptions