OBJECT ORIENTED PROGRAMMING C++ Syllabus

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