

➔ INTRODUCTION TO C++

- Understanding Requirement : Why C++
- C vs C++
- Advantage of OOP
- Software and Hardware for C++
- Compiling and Linking

➔ AN OVERVIEW OF C++ AND BUZZWORDS

- Data Types, Variables and Arrays
- Operators
- Control Statements

➔ FUNCTIONS

- Function Prototyping
- Call/Return by Reference
- Function overloading
- Friend and Virtual Functions

➔ CLASSES AND OBJECTS

- Defining Member Functions
- Arrays within a class
- Memory allocation for Objects
- Pointers to Members

➔ CONSTRUCTORS AND DESTRUCTORS

- Parameterized/Copy/Dynamic Constructors
- Multiple Constructors in a Class
- Dynamic initialization of objects
- Constructing Two-dimensional Arrays
- Destructors

➔ OPERATOR OVERLOADING

- Overloading Unary/Binary operators
- Manipulation of String Using Operators
- Rules for Overloading Operators
- Type Conversions

- **INHERITANCE : Extending C asses**
 - Defining Derived C asses
 - Constructors in Derived C asses
 - Single/Multiple/Multiple/Hierarchical/Hybrid inheritance
 - Virtual Base C asses
 - Abstract C asses
 - Member C asses : Nesting of C asses

- **POINTERS, VIRTUAL FUNCTIONS AND POLYMORPHISM**
 - Pointers to Objects
 - This Pointer
 - Pointers to Derived C asses
 - Virtual Functions

- **MANAGING CONSOLE I/O OPERATIONS**
 - C++ Stream C asses
 - Unformatted/Formatted I/O Operations

- **FILE MANAGEMENT IN C++**
 - Introduction to File Management
 - Opening/Closing a File
 - Input/Output operations on Files
 - Error Handling During I/O Operations
 - Command Line Arguments

- **EXCEPTION HANDLING**
 - Basics of Exception Handling
 - Exception Handling/Throwing/Catching Mechanism
 - Rethrowing an Exception