

C++ Programming

Course Duration: 40 Hours

Module 1: Object-Oriented Programming

- Revision of C
- C++ vs C
- Difference between OOP and SOP

Module 3: OOP Concepts

- Introduction to OOP
- Need for OOP
- Features of OOP
 - Abstraction
 - Encapsulation
 - Inheritance
 - Polymorphism

Module 5: C++ Inheritance

- Base Class
- Derived Class
- Friend Class
- Overriding functions
- Multiple Inheritance
- Ambiguity in multiple inheritances
- Virtual class and virtual functions

Module 7: Operator Overloading

- Introduction to operator overloading
- Unary Operators
- Binary Operators
- Special Operators

Module 9: Templates

- Function Templates
- Class Templates

Module 11: Files

- istream / ostream class
- File read
- File writing
- Append file
- Binary file handling

Module 2: C++ Basics

- First hello world program
- Variables and constants
- cin and cout statements
- Conditional operators
- Looping constructs

Module 4: C++ Classes/Functions

- Functions in C++
- Parameter passing and return values
- Friend Function
- Overloading functions
- Constructors
- Overloading Constructors

Module 6: Exception Handling

- Try
- Throw
- Catch

Module 8: Polymorphism

- Compile time polymorphism
- Runtime polymorphism

Module 10: Standard Template Library

- Containers
- Iterators
- Algorithms
- Function objects

