

# C++

**Duration:****Prerequisites :** Basic Knowledge of C Language**Introduction**

- What is C++, Its Applications, And Advantages etc.
- Difference between C And C++.
- Creating C++ Source File, Editing, Compiling, Linking, Debugging
- Object Oriented Programming (OOP).
- Applications of OOP, Benefits of OOP.

**Decision Control and Looping Statements**

- Conditional Branching Statements
- If Statement
- If–Else Statement
- If–Else–If Statement
- Switch Case
- While Loop
- For Loop
- Do-While Loop
- Nested Loops
- Break And Continue Statements
- Goto Statement

**Functions In C++**

- Different Forms Of Functions
- Function Prototyping
- Call By Reference
- Inline Functions
- Function Overloading
- Math Library Functions
- Default Arguments In Function

# C++

## Constructor and Destructors

- Introduction To Constructors And Destructors
- Default Constructor
- Parametrized Constructor
- Dynamic Constructor
- Copy Constructor
- Default Argument Constructor
- Overloading Of Constructor
- Destructor
- Explicit Constructors
- Dynamic Initialization And Assignment Operation
- Private Copy Constructors
- Usage Of Constructors And Destructors For Constant Objects
- Dynamic Initialization Of Object

## Exception Handling

- Components Of Exception Handling Mechanism
- Try Block
- Catch Block
- Throw Expression
- Throwing Within And Outside Functions
- Throwing Variables Other Than Objects
- Using Multiple Catch
- Catch All
- Restricting Exceptions From Functions: Exception Specification
- Rethrowing Exceptions
- Terminate() And Unexpected() Functions
- Uncaught\_Exception() Function
- Exception Class

## String Objects

- Operations On String Objects
- Creating Strings
- Substring Operations
- Operations Involving Multiple Strings

## C++

- String Characteristics

### Standard Template Library

- Generic Programming
- Generic Algorithms
- Iterators
- Containers
- Generic Algorithms
- Find() Algorithm
- Copy() Algorithm
- Sort() Algorithm