

# C & C++ Content Details

## C Outline Introduction

- The C Language and its Advantages
- The Structure of a C Program
- Writing C Programs
- Building an Executable Version of a C Program
- Debugging a C Program
- Examining and Running a C Application Program Data Types and Variables
- Data Types
- Operands, Operators, and Arithmetic Expressions Input/Output Management
- The Input/Output Concept
- Formatted Input Function Control-Flow Statements
- The Control-Flow Program Statements
- Looping Statements
- The Data-checking process Modular Programming with Functions
- The C Function
- Passing Data to Functions
- Passing an Address to Modify a Value in Memory
- Using Functions in the Checkbook Program
- C Standard Library Functions Arrays, Pointers, and Strings
- Arrays , Pointers , Strings
- Using Arrays, Strings, and Pointers in the Checkbook Program Structures
- Structures
- Arrays of Structures
- Passing Structures to Functions
- Nesting Structures File Input/Output
- Command-line Arguments
- Combining Command-line

# C++ Training Syllabus Introduction to C++

- Creating a project
- Writing, compiling and running a program Variables and data types
- Expressions
- Constants
- Operators
- Type conversions Looping constructs: while, do...while, for loops
- If...else statements
- Switch/case construct Functions
- Passing arguments
- Function prototyping
- Default argument initializers
- Inline functions Arrays
- Array initialisation
- Multi-dimensional arrays
- Character arrays
- Working with character strings Storage Classes
- Global variables Pointers
- Pointer and arrays
- Pointers to character strings
- Arrays of pointers
- Memory slicing
- Pointers to functions C++ classes
- Data members and member functions
- Creating objects
- The new and delete operators
- Friends to a class
- Class initialisation Reference types
- Reference type arguments
- Function overloading
- Operator overloading Copy constructor

- Assignment operator Template classes
- Static class members
- File streams Inheritance
- Base classes and derived classes
- Inherited member access
- Base class initialization
- Protected members of a class Virtual functions
- Virtual destructors Virtual base classes
- Virtual base class member access
- Constructor and destructor ordering Exception handling
- try...throw...catch block
- Nested catch handlers