INSPIRE GLOBAL GROUP INSTITUTE

C & C++ Syllabus

Notes

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[Pick the date]

C is a powerful, efficient, and widely-used procedural programming language, while C++ extends C with object-oriented programming features like classes and inheritance.

DURATION:
36 Hours. (Theory: 10 hrs + Practical: 22 hrs. + Tutorial: 04 hrs.)
This course can also be offered as 06 days full time intensive course.

Module - 1 Basics of C

- ✓ History and Features of C
- ✓ Importance of C & Procedural Language
- ✓ Role of Compiler & Interpreter
- ✓ 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

Module - 2 Control Statement

- ✓ The IF ELSE Statement
- ✓ IF ELSE Statement
- ✓ Nesting of IF ELSE Statements
- ✓ The Switching Statements
- ✓ The do-while Statement
- ✓ The while statement
- ✓ FOR Statements

Module - 3 Array in C

- ✓ Array: What and Why?
- ✓ One Dimensional Arrays
- ✓ Two Dimensional Arrays
- ✓ Multi Dimensional Arrays
- ✓ Dynamic Arrays

Module - 4 Pointers in C

- ✓ Understanding Pointers
- ✓ Pointer Expressions
- ✓ Pointer and Arrays
- ✓ Pointers and Character String
- ✓ Pointers to Functions
- ✓ Pointers and Structures

Module - 5 Structures and Unions

- ✓ Defining a Structure
- ✓ Advantage of Structure
- ✓ Size of Structure
- ✓ Arrays of Structures
- ✓ Defining Unions

Module - 6 Introduction to C++

- ✓ C++ Characteristics
- ✓ Object-Oriented Terminology
- ✓ Object-Oriented Paradigm
- ✓ Abstract Data Types

- ✓ I/O Services
- ✓ Standard Template Library

Module - 7 Operator Overloading

- ✓ Operator Overloading
- ✓ Working with Overloaded Operator Methods

Module - 8 Initialization and Assignment

- ✓ Initialization vs. Assignment
- ✓ The Copy Constructor
- ✓ Assigning Values
- ✓ Specialized Constructors and Methods
- ✓ Constant and Static Class Members

Module - 9 Storage Management

- ✓ Memory Allocation
- ✓ Dynamic Allocation: new and delete

Module - 10 Inheritance & Polymorphism

- ✓ Overview of Inheritance
- ✓ Defining Base and Derived Classes
- ✓ Constructor and Destructor Calls
- ✓ Overview of Polymorphism

Module - 11 Input and Output in C++ Programs

- ✓ Standard Streams & Manipulators
- ✓ Unformatted Input and Output
- ✓ File Input and Output

Module - 12 Exception Handling

- ✓ Inheritance and Exceptions
- ✓ Inside an Exception Handler