

# **Course Contents of C**

**Duration: 15 to 20 Sessions (1 Session = 1 Hr.)**

## **Introduction to C**

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  
Role of Compiler & Interpreter

## **Data Types and Variables**

Data Types  
Operands, Operators, and Arithmetic Expressions  
Pre-processors Directives

## **Input/output Management**

The Input/output Concept  
Formatted Input Function

## **Control-Flow Statements**

The IF...ELSE Statements  
Nesting of IF-ELSE Statements  
The Switch Statement  
The While Statement  
The Do and For Statement

## **Arrays and Strings**

One/Two/Multi-Dimensional Arrays  
Dynamic Arrays  
Reading String from Terminal  
Writing String to Screen  
String Handling Functions

## **Programming with Functions**

The C Function  
Passing Data to Functions  
Passing an Address to Modify a Value in Memory  
Nesting of Functions  
Recursion  
Variable Arguments function

## **Pointers**

Understanding Pointers  
Pointers Expressions  
Pointers and Arrays  
Pointers to Functions & Structures

## **Structures and Unions**

Defining & Benefit Structures  
Arrays of Structures  
Passing Structures to Functions  
Nesting Structures

## **The Pre-processor and Multiple-file Compilation**

The C Pre-processors  
The Conditional Compilation Directives  
Global Variables and Variable Storage Classes  
Program Organization and Multi-file Compilation

## **File Management in C**

Introduction to File Management  
Opening/Closing a File  
Input/output operations on Files  
Command Line Arguments