



# **Certification in C Programming Language**

## **Syllabus**

**Duration: 40 Hours**

### **1. Basics of C**

- History and Features of C
- Importance of C
- About Procedural Language
- Role of Compiler
- Role of 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

### **2. An Overview of C and Buzzwords**

- Data Type, Variable
- Operators
- Control Statement
- Pre-processor Directives Input and Output Operators
- Reading/Writing Characters
- Formatted input/output Function

### **3. Control Statement**

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

### **4. Array in C**

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

## **5. String Handling**

- **Reading String from Terminal**
- **Writing String to Screen**
- **String Handling Functions**
- **Table of String**

## **6. Function in C**

- **Function Basics**
- **Advantage of Function**
- **Recursion**
- **Variable Storage Classes**
- **Variable arguments Function**

## **7. Pointers in C**

- **Understanding Pointers**
- **Pointer expressions**
- **Pointer and Arrays**
- **Pointers and Character String**
- **Pointers to Functions**
- **Pointers and Structures**

## **8. Structures and Unions**

- **Defining a Structure**
- **Advantage of Structure**
- **Size of Structure**
- **Arrays of Structures**
- **Structures and Functions**
- **Defining Unions**

## **9. Dynamic Memory allocation**

- **Introduction to Dynamic Memory Allocation**
- **Malloc**
- **Calloc**
- **Realloc**
- **Free**

## **10. Linked List**

- **Concepts of Linked Lists**
- **Creating a Linked Lists**
- **Inserting/Deleting an item**



- **Application of Linked Lists**

## **11.File Management in C**

- **Introduction to File Management**
- **Opening/Closing a File**
- **Input/Output operations on Files**
- **Error Handling During I/O Operations**
- **Command Line Arguments**

## **12.Preprocessor**

- **Macro Substitution**
- **File Inclusion**
- **Computer Control Directives**

## **13.Project Work**

## **14.Placement Assistance Sessions**

- **Mock Interviews**
- **GDs**
- **Preplacement Talks**
- **Industry Exposer Sessions**

## **15.Internship**

