

C PROGRAMMING COURSE CONTENT

C Language Introduction

- *C language Introduction – History and Features of C*
- *Algorithms*
- *Flowcharts*
- *Generation of Languages*

Basics of C-Language

- *The 'C' Character Set*
- *'C' Keywords and delimiters*
- *Identifiers and Rules of Identifiers*
- *Variables*
- *Constants*
- *Declaration of Variables*
- *Initialization of variables*
- *Basic Data types*

Basics of C-Programming

- *C program structure*
- *Execution of 'C' program*

Basic Input and Output Functions

- *Introduction*
- *get char() & put char() functions.*
- *gets() & puts() functions.*
- *scanf() & printf() functions.*

C Operators and Expressions

- *Introduction.*
- *Arithmetic operators*
- *Assignment operators*
- *Relational operators*
- *Logical operators*
- *Bit wise operators*
- *Conditional operators (ternary operators)*
- *Increment/decrement operators*
- *Special operators*

Branch Control Statements

- *If*
- *If-else*
- *Nested if-else*
- *If-else ladder*
- *Switch case statement*

Loop Control Statements

- For loop
- While loop
- Do ... while loop
- Break and continue statements
- Nested Loops

Strings

- What are strings?
- Declaration and Initialization of Strings
- String I/O
- gets() and puts()
- String Manipulation Functions

Arrays

- What is an array?
- Declaration of an Array
- Initialization of an Array
- Accessing elements of an Array
- Types of Arrays
- Single Dimensional Arrays
- Two Dimensional Arrays

Pointers

- What is a pointer?
- Declaration of a pointer Variable
- Initialization of a pointer Variable
- Using pointer Variables
- Pointer Arithmetic
- Pointers to pointers
- Array of Pointers
- Pointer to an Array
- Passing an Array to a function
- Functions returning a Pointer Variable
- Pointer with Structures
- Dynamic memory

Functions

- What is Function
- Types of Functions
- Declaration of a Function
- Definition of a Function
- Calling a Function
- Passing Parameters or Arguments to a function
- Call by value and call by reference
- Functions with Return Values

- *Function with arrays*
- *Function with Strings*
- *Nested Functions*
- *Recursive Functions*

Structures and Unions

- *Introduction to Structures*
- *Declaration of Structures*
- *Structure Variables and Initialization of Structures*
- *Arrays in Structures*
- *Arrays of Structure variables*
- *Nested Structure*
- *Structures and functions*
- *Pointers with Structures*
- *Introduction to Union*
- *Declaring Union*
- *Difference between Structure and Union*

File Handling

- *Introduction to files*
- *File Pointer*
- *Opening a File*
- *Closing a File*
- *Types of files*
- *File input, Output Operators*
- *Command Line Arguments*