C Programming Language Course Content

1. Introduction to 'C' language

- Features of C
- History
- Structure of C Program
- Keyword, Identifiers & Constants

2. Data Types

- Primitive Data Types
- Aggregated Data Types

3. Operators

- Binary Operators
- Unary Operators
- Ternary Operators
- Special Operators
- Order of Evaluation

4. Selections

- Simple if
- if..else
- Nested if
- if..else ladder
- Goto Statement
- Break and Continue Statement
- Switch..Case statement

5. Iteration

- While
- For
- Do..While
- Nested loop Statements

6. Arrays

- Introduction to arrays
- Need for Arrays
- Types of arrays
- One Dimensional Arrays
- Two Dimensional Arrays
- Multi-Dimensional Arrays

7. String Manipulation

- Declaring String
- Initializing String
- String Functions
- String Formatted Specifies
- Multiple Strings

8. Functions

- ➢ Introduction to Functions
- ➢ Need for Functions
- ➢ Classification of Functions
- ➢ Function Prototype
- ➢ Defining Function
- ➢ Calling Function
- ➢ Function with Arrays
- ➢ Function with Strings
- ➢ Recursive Functions

9. Storage classes

- ➢ Automatic
- ➢ Extern
- ➢ Static
- ➢ Register

10. Structures, unions, enum

- Introduction to structures
- Declaring a Structure
- Introduction to Structures
- Structures with Arrays
- Structures with Function
- Nested Structures
- Introduction to Union
- Declaring Union
- Difference between Structures and Unions
- Enumerations
- Typedef

11. Pointers

- Introduction to Memory
- Introduction to Pointers
- Operations on Pointers
- Pointer to Pointer
- Pointer to Array
- Array to Pointers
- Void pointers
- Call by Value and Call by Reference
- Passing Pointers to Functions
- Functions returning Pointers
- Pointer to Functions
- Dynamic Functions Call with Function Pointer
- Pointers with Structures

12. Dynamic Memory Allocation

- Allocation (Malloc, Calloc & Realloc)
- De – Allocation (Free)

13. Files

- Introduction
- File Input, Output Operations
- Sequential Files
- Random Access Files
- Command Line Arguments
- Handling Errors
- Database vs File System

14. Graphics

- Introduction to Graphics
- Initializing Graphics
- Graphic Drivers & Modes
- Graphic Functions