

C Language Complete Syllabus

1. Introduction to C Language

- History and Importance of C
- Structure of a C Program
- Compilation and Execution

2. Data Types and Operators

- Basic Data Types (int, char, float, double)
- Type Modifiers and Qualifiers
- Operators and Expressions

3. Control Structures

- Decision Making (if, if-else, nested if)
- Switch Case
- Loops (for, while, do-while)
- Jump Statements (break, continue, goto)

4. Functions

- Function Declaration and Definition
- Parameter Passing (Call by Value/Reference)
- Recursion

5. Arrays and Strings

- One-dimensional and Multi-dimensional Arrays
- String Handling Functions
- Array of Strings

6. Pointers

- Basics of Pointers
- Pointer Arithmetic
- Pointers and Arrays
- Pointers to Functions

7. Structures and Unions

- Structure Declaration and Initialization
- Nested Structures
- Unions and Bit Fields

8. File Handling

- File Operations (Read/Write)
- File Modes and Functions
- Command Line Arguments

9. Dynamic Memory Allocation

- malloc(), calloc(), realloc(), free()
- Memory Leak and Management

10. Advanced Topics (Optional)

- Preprocessor Directives
- Header Files and Macros
- Linked Lists Basics
- Introduction to C Libraries