

Programming with C

32hours

Introduction to Problem Solving:

- Flow charts
- Tracing flow charts
- Problem solving methods
- Need for computer Languages
- Sample Programs written in C

C Language preliminaries:

- C character set
- Identifiers and keywords
- Data types
- Declarations
- Expressions
- Statements
- Symbolic constants

Input-Output:

- Getchar
- Puchar
- Scanf
- Printf
- Gets
- Puts
- Functions

Pre-processor commands:

- #include
- #define
- #ifdef

Preparing and running a complete C program:

Operators and expressions:

- Arithmetic
- Unary
- Logical
- Bit-wise
- Assignment
- Conditional operators

Control statements:

- While
- Do-While
- For statements

- Nested loops
- If else
- Switch
- Break
- Continue
- Goto statements
- Comma operators

Storage types:

- Automatic
- External
- Register
- Static variables

Functions:

- Defining and accessing
- Passing arguments
- Function prototypes
- Recursion
- Library functions
- Static functions

Arrays:

- Defining and processing
- Passing arrays to a function
- Multi dimensional arrays

Strings:

- Defining and operations on strings.

Pointers:

- Declarations
- Passing pointers to a function
- Operations on pointers
- Pointer Arithmetic
- Pointers and arrays
- Arrays of pointers function pointers

Structures:

- Defining and processing
- Passing to a function
- Unions
- Typedef
- Array of structure
- Pointer to structure

File structures:

- Definitions
- Concept of record
- File operations: Storing
- Creating
- Retrieving
- Updating
- Sequential
- Relative
- Indexed
- Random access mode
- Files with binary mode(Low level)
- Performance of Sequential Files
- Direct mapping techniques: Absolute
- Relative
- Indexed
- Sequential files (ISAM) concept of index
- Levels of index
- Overflow of handling

File Handling:

- File operation: creation
- Copy
- Delete
- Update
- Text file
- Binary file