SCHEDULE

Day1-6 hrs.

Module 1

- Overview of C and C++
- Basic syntax and structure of C and C++ programs
- Data types, variables, and constants
- Operators and expressions
- Control flow: decision making and looping constructs

Module 2

- Functions in C and C++
- Function prototypes and parameter passing
- Scope and lifetime of variables
- Header files and function libraries
- Modular programming concepts

Day2-6 hrs.

Module 3

- Arrays and multidimensional arrays
- Strings in C and C++
- String manipulation functions
- Character handling functions
- Array processing and manipulation techniques

Module 4

- Pointers and pointer arithmetic
- Dynamic memory allocation in C and C++
- Memory management functions (malloc, calloc, realloc, free)
- Pointers and arrays
- Pointer to functions

Module 5

- Structure definition and initialization
- Accessing structure members
- Nested structures and arrays of structures
- Unions and their applications
- Structures vs. unions

Module 6

- File operations in C and C++
- File opening, reading, writing, and closing
- Sequential and random file access
- Error handling and file management
- File manipulation functions

Module 7

- Classes and objects
- Constructors and destructors
- Member functions and data members
- Inheritance and polymorphism
- Operator overloading and function overloading

Day 4-6 hrs.

Module 8

- Templates and generic programming
- Exception handling
- Standard Template Library (STL)
- Smart pointers and memory management
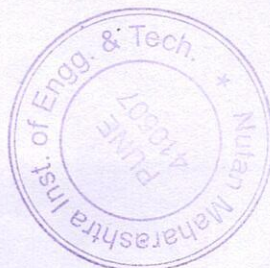- Multithreading and concurrency in C++

Module 9

- Overview of web development technologies

- Client-side vs. server-side scripting

- Introduction to HTML, CSS, and JavaScript

- Basics of web servers and web browsers

<u>Day 5-6 hrs.</u>

Module 10

- CGI programming with C/C++

- Using C/C++ libraries for web development

- Building dynamic web applications with C/C++

- Security considerations in web development with C/C++