NIELIT

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National Institute of Electronics & Information Technology (NIELIT)
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Ministry of Electronics & Information Technology
Government of India

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Central Govt of India**

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Syllabus

Programming Through C Language (45 Days)

Hawal Srinagar-190011, J&K.

Detailed Syllabus

Programming through C Language   (Course Fee: 2500)

About the course
In this course, you will learn about the components of a computer which includes Memory, processor, input and output devices along with storage and operating system. You will also understand the concept of assembler, compiler, interpreter, loader, and linker. Then you will be introduced to algorithms and flowcharts which includes representation of an algorithm, flowchart, along with the concept of pseudo code and its examples, converting algorithms to programs and writing source code.

Overview of the Programming Languages
- What is C Language
- Why C Language
- Future in C Language
- Summary

Setting up and Installing C Language
- Prerequisite in C Language
- Installation of C
- Summary

Data Type, Constants & Variables
- What is Data Types in C Language with practical
- Integers, long and short in C Language with practical
- Integers, signed and unsigned in C Language with practical
- Chars, signed and unsigned in C Language with practical
- Floats and Doubles in C Language with practical
- Constants in C with practical
- Variables in C with practical
- Keywords in C with practical
- How to get input from user with practical
- How to display output to user with practical
- Summary

Statement
- If-Else Statement in C Language with practical
- for Loop in C Language with practical
- While Loop in C Language with practical
- Do-While Loop in C Language with practical
- Break in C Language with practical
- Continue in C Language with practical
- Switch in C Language with practical
- Summary

Function
- What is a Function in C Language with practical
- Passing Values between Functions in C Language with practical
- Call by Value in C Language with practical
- Call by Reference in C Language with practical
- Summary

Pointer
- An Introduction to Pointers
- Pointer Notation in C Language
- Back to Function Calls in C Language with practical
- Recursion in C Language with practical
- Summary

Preprocessor
- The C Preprocessor in C Language
- Features of C Preprocessor
- Macro Expansion in C Language
- Macros with Arguments with practical

Arrays
- What are Arrays in C Language
- A Simple Program Using Array
- How to Initialize Array in C Language with practical
- Passing Array Elements in C Language to a Function with practical
- Pointers and Arrays in C Language with practical
- Passing an Entire Array to a Function in C Language with practical
- Two Dimensional Arrays in C Language with practical
- Initializing a 2-Dimensional Array with practical
- Pointers and 2-Dimensional Arrays with practical
- Pointer to an Array with practical
- Passing 2-D array to a Function with practical
- Array of Pointers with practical
- Three Dimensional Array with practical
- Summary

String
- What are Strings in C Language
- How to get length of a string in C Language using strlen( ) with practical
- How to copy a string in C Language using strcpy( ) with practical
- How to concatenate a string in C Language using strcat( ) with practical
- How to compare two string in C Language using strcmp( ) with practical
- Summary

Structures
- What is Structures in C Language
- Why Use Structures in C Language
- Declaring a Structure in C Language with practical
- Accessing Structure Elements in C Language with practical
- How Structure Elements are Stored with practical

- Array of Structures in C Language with practical
- Additional Features of Structures with practical
- Uses of Structures with practical
- Summary

File Operation
- File Input/Output in C Language with practical
- File Operations in C Language with practical
- Opening a File in C Language with practical
- Reading from a File in C Language with practical
- Closing the File in C Language with practical
- Counting Characters, Tabs, Spaces, with practical
- A File-copy Program in C Language
- Writing to a File in C Language with practical
- File Opening Modes
- String (line) I/O in Files
- Summary

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