

# C Programming Syllabus

## UNIT I

### 1.1 Introduction

C is usually First – What is the ANSI-C Standard

### 1.2 Getting Started

What is an Identifier? - What about the underline? – Keywords - Result of Execution - A word About Compilers

### 1.3 Getting Started in C

Your First C Program - A Program that does Something – Printing in C – comments in C – Formatting Style

## UNIT II

### 2.1 Program Control

The **while** loop, **do-while** loop, **for** loop, **if** Statement, **if-else** statement, **break** and **continue**, **switch** statement, **goto** statement

### 2.2 Assignment & Logical Compares

Integer Assignment Statements - Data types - Data Type mixing - Variable Types - The Conversion Characters.

Logical Compares - Logical Evaluation - Cryptic part of C - Cryptic Arithmetic Operator - The conditional Expression

## UNIT III

### 3.1 Functions, Variables and Prototypes

User defined Function - Defining the Functions - Passing a value to a Function - Floating Point Functions.

The return type of **main()** - Scope of variables – Global Variables and Static Variables – Prototyping - Recursion

## UNIT IV

### 4.1 The C Preprocessor

Aids to Clear Programming

Macros - Conditional Compilation - Multiple File Programs – Enumerated Data Type

## UNIT V

### 5.1 Strings and Arrays

What is a String? - What is an Array? - Using the String - Printing a String - Some String Functions

Array of Integers, floating Point data - Getting Data back from a function - Multi-Dimensional Arrays

## UNIT VI

### 6.1 Pointers

What is a Pointer? - How do you Define a Pointer? - Pointer Indexing - Pointer Arithmetic - Function data return with a Pointer - A pointer to a Function

## UNIT VII

### 7.1 Standard Input / Output

The **stdio.h** header file - Input / Output Operations in C - Character String Input - Input / Output Programming in C - In Memory I/O - Standard Error Output

### 7.2 File Input / Output

Output to a File - Opening a File - Reading (“r”), Writing (“w”), Appending (“a”), Outputting to the File - Closing a File

Outputting a Single Character at a Time - The **putc()** Function - Reading a File

## UNIT VIII

### 8.1 Structures and Unions

What is a Structure? - A Single Compound Variable - Assigning values to the variables- An array of Structures - Using Pointers and Structures together - Pointer Arithmetic

Nested and Named structures – Unions – **typedef** – bitfield

## UNIT IX

### 9.1 Dynamic Allocation

What is Dynamic Allocation? - Dynamic Variable Creation – Heap – Cast

## UNIT X

### 10.1 Bitwise Operator

Introduction, Applications – Masking, Internal Representation of Date, Bit Fields