I Year I Semester   **L   T   P   C**

Code: 17CS111   **0   0   3   2**

C PROGRAMMING LAB
(Common to All Branches)

OBJECTIVES:
- Understand the basic concept of C Programming, and its different modules that includes conditional and looping expressions, Arrays, Strings, Functions, Pointers, Structures and File programming.
- Acquire knowledge about the basic concept of writing a program.
- Role of constants, variables, identifiers, operators, type conversion and other building blocks of C Language.
- Use of conditional expressions and looping statements to solve problems associated with conditions and repetitions.
- Role of Functions involving the idea of modularity.

List of Experiments
1. Algorithms and Flow charts design and evaluation (Minimum 2)
2. Write C Programs to demonstrate C-tokens and operators
3. Write C Programs to demonstrate Decision Making And Branching (Selection)
4. Write a C program to demonstrate different loops
5. Write a C program to demonstrate arrays
6. Write a C program to demonstrate functions
7. Write a C program to implement the following
    a. To manipulate strings using string handling functions.
    b. To manipulate strings without using string handling functions
8. Write a C program to demonstrate different library functions
9. Write a C program to implement the following
     a. To exchange two values using call by value and reference
     b. To multiply two matrices using pointers
10. Write a C program to demonstrate functions using pointers
11. Write a C program to implement the following operations using structure and functions:
     i) Reading a complex number
     ii) Writing a complex number
12. Write a C program
    a. To copy data from one file to another
    b. To reverse the first n characters in a given file (Note: The file name and n are specified on the Command line)

List of Mini-Projects:
- Merging of two arrays
- Arithmetic operations on two complex numbers
- Employee's Management System
- Library management
- Department store system

- Personal Dairy Management System
- Telecom Billing Management System
- Bank Management System
- Contacts Management
- Medical Store Management System

COURSE OUTCOMES:
- Apply and practice logical ability to solve the problems.
- Understand C programming development environment, compiling, debugging, and linking and executing a program using the development environment
- Analyzing the complexity of problems, Modularize the problems into small modules and then convert them into programs
- Understand and apply the in-built functions and customized functions for solving the problems.
- Understand and apply the pointers, memory allocation techniques and use of files for dealing with variety of problems.
- Document and present the algorithms, flowcharts and programs in form of user-manuals
- Identification of various real time domains and programming resources in C through Mini
- Projects