SWARNANDHRA
COLLEGE OF ENGINEEERIN G AND TECHNOLGY
(AUTONOMOUS)
SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP
DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS(Honours)

TEACHING PLAN

Course Code	Course Title	Year / Sem.	Branch	Contact Hr/ week	Academic Year
24BC1L03	PROGRAMMING in C LAB	I/I	BCA	3	2025-26

Course Objectives:

The course aims to give students hands on experience and train them on the concepts of the C- programming language.

Course Outcomes (Cos): At the end of the course, student will able to

CO No.	Course Outcome	Knowledge Level (K)
CO1	Understand the fundamentals of programming, including writing and executing basic C programs using arithmetic and input/output statements.	K2
CO2	Apply conditional statements, loops, and functions to solve computational problems involving decision-making and iterative processes.	K3
CO3	Analyze and manipulate arrays, strings, pointers, and structures in C to perform various operations and memory management.	K4
CO4	Implement complex programming constructs such as recursive functions, file handling, and dynamic memory allocation in C	K3
CO5	Demonstrate problem-solving skills using C programming to handle file operations, pointer arithmetic, and structure/union concepts.	K4

S.No	Program	Proposed Number of Labs
1	Familiarization with programming environment i) Basic Linux environment and its editors like Vi, Vim &Emacs etc. ii) Exposure to Turbo C, gcc iii) Writing simple programs using using input and Output Statements iv) Simple Arithmetic Operations	1
2	Developing the algorithms/flowcharts for the following sample programs i) Simple statistics Operations- Sum and average etc ii) Conversion of Fahrenheit to Celsius and vice versa iii) Simple and Compound Interest calculation Simple computational problems using arithmetic expressions. i) Finding the square root of a given number ii) Finding compound interest iii) Area of a triangle using hero's formulae iv) Distance travelled by an object	1
3	Simple computational problems using the operator precedence and associativity i) Evaluate the following expressions. a. $A+B*C+(D*E) + F*G$ b. $A/B*C-B+A*D/3$ c. $A+++B---A$ d. $J= (i++) + (++i)$ ii) Find the maximum of three numbers using conditional operator	1
4	Problems involving if-then-else structures i) Find the max and min of four numbers using if-else structures ii) Generate electricity bill. iii) Find the roots of the quadratic equation. iv) Simulate a calculator using switch case. v)Find the given year is a leap year or not etc.	1
5	Iterative problems e.g., series and sequences i) Find the factorial of given number using any loop. ii) Find the given number is a prime or not. Checking a number is palindrome or not	1

6	1D Array manipulation, linear search i) Find the min and max of a 1-D integer array ii) Perform linear search on1D array. iii) The reverse of a 1D integer array	1
7	Matrix problems, String operations i) Addition of two matrices ii) Multiplication two matrices iii) Sort array elements iv) Concatenate two strings without built-in functions v) Reverse a string using built-in and without built-in string functions	1
8	Pointers and structures, memory dereference. i) Write a C program to find the sum of a 1D array using malloc() ii) Write a C program to find the total, average of n students using structures iii) Enter n students data using calloc() and display failed students list	1
9	i) Demonstrate the differences between structures and unions using a C program. ii) Write a C program to copy one structure variable to another structure of the same type. iii) Write a C program to swap two numbers (Use call by value and call by reference)	1
10	Recursive functions i) Generate Fibonacci series. ii) Find the LCM of two numbers. iii) Find the factorial of a number File operations i) Write and read text into a file. ii) Write and read text into a binary file iii) Copy the contents of one file to another file. Find no. of lines, words and characters in a file	1

R.Sunithe
Faculty

Head of the Department

Principal