Subject Code: CS1L002	Name: Programming in C	L-T-P-C: 2-0-2-3

Prerequisite: None

Theory:

Module 1: Introduction (4 hours): Data types, constants, variables, scope, expressions and operators, input and output statements.

Module 2: Control Flow (5 hours): Conditional and branch statements (if-else, switch), Iteration statements (for, while, do-while, goto).

Module 3: Core Concepts (14 hours): Single and Multidimensional arrays, functions and recursion, strings, structures, pointers and dynamic memory allocation.

Module 4: Searching and Sorting (3 hours) Linear and binary search, selection sort, bubble sort, insertion sort.

Module 5: File Handling (2 hours) File open, close, read, and write.

Laboratory Experiments:

1. Familiarization with C Programming Environment
2. Data types, constants, scope of variables, operators and input-output
3. Conditional and branch statements, Loops and iteration statements
4. Single and Multidimensional arrays, Pointers and dynamic memory allocation
5. Strings
6. Function and recursion
7. Structures
9. File handling

Text Books:
1. Yashavant Kanetkar, "Let us C", 20th Edition, BPB.
2. E. Balagurusamy, "Programming in ANSI C", 9th Edition, McGraw Hill.
3. Byron S. Gottfried, "Programming with C (Schaum's Outlines)", 4th Edition, McGraw Hill.
4. Paul Deitel and Harvey Deitel. C: How to Program, 9th Edition, Pearson.

Reference Books:

1. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language", 2nd Edition, Pearson.

2. Herbert Schildt, "C: The Complete Reference", 4th Edition, McGraw Hill.

3. R. G. Dromey, "How to Solve it by Computer", Pearson.

4. Al Kelley and Ira Pohl, "A Book on C", 4 th Edition, Addison-Wesley.

5. Stephen G. Kochan, "Programming in C", 4th Edition, Addison-Wesley.

6. K. N. King, "C Programming: a modern approach" 2nd Edition, W. W. Norton & Company