19CS101 PROGRAMMING FOR PROBLEM SOLVING

UNIT - I

INTRODUCTION TO C: Structure of a C program; pre-processor statement, inline comments, Variable declaration statement, Executable statement; C Tokens: C Character set, Identifiers and keywords, Type qualifiers and Type modifiers, Variables and constants, Punctuations, and operators. Data Types: Basic data types; Storage classes; scope of a variable; Formatted I/O; Reading and writing characters;

UNIT - II

OPERATORS AND CONTROL STATEMENTS: Operators - assignment, arithmetic, relational, logical, bitwise, ternary, address, indirection, sizeof, dot, arrow, parentheses operators; Expressions - operator precedence, associative rules; Control statements - category of statements, selection, iteration, jump, label, expression and block.

UNIT - III

ARRAYS AND FUNCTIONS: Array - declaration, initialization, reading, writing, accessing and passing as a parameter to functions, 2D-arrays, multidimensional arrays; Function - declaration, prototype, definition, calling by value and call by address, standard library functions and recursive functions.

UNIT - IV

STRINGS AND POINTERS: Strings - declaration, string library functions, array of strings, command line arguments; Pointers - declaration, initializing pointers, multiple indirection, relationship between arrays and pointers; Dynamic memory allocation functions.

UNIT - V

STRUCTURES AND UNIONS: Structures - defining a structure, declaration of a structure objects, operations on structures; Pointers to a structure; Array of structures; Nested structures; Unions; Bit – Fields.