PROGRAMMING CONCEPTS Using C

1.0 Computer Programming: Basic Programming concepts - Algorithm, Flowcharts, Modular Programming and structured programming.

2.0 ‘C’ PROGRAMMING

2.1 Problem solving using Computers, Concept of flowcharts & algorithms.

2.2 Overview of ‘C’: Introduction, Importance of ‘C’, Sample ‘C’ Programs, Basic structure of ‘C’ programs, Programming style, Executing a ‘C’ Program.

2.3 Constants, Variables and Data types: ‘C’ Tokens, keywords and identifiers, constants, variables, data types, declaration of variables, assigning values to variables, defining symbolic constants.

3.0 Operators and expression: Arithmetic operators, Relational operators, Logical operators, Assignment operators, increment and decrement operators, conditional operators, bitwise operators, special operators, some computational problems, type conversion in expressions, operator precedence and associatively. Mathematical functions.

3.1 Managing input and output operators: Input and Output statements, reading a character, writing characters, formatted input, formatted output statements.


4.0 Arrays: One dimensional arrays, Two-dimensional arrays, initializing two dimensional array, Multidimensional arrays.

4.1 Handling of character strings: Declaring and initializing string variables, reading string from terminal, writing string to screen, arithmetic operations on characters, putting strings together. Comparison of two strings, string handling functions-strlen, strcat, strcmp, strcpy.

5.0 User defined functions: Need for user-defined functions, a multi-functional program, the form of ‘C’ function, Return values and their types, calling a function, category of functions-No arguments and no return values, arguments but no return values, arguments with return values, handling of non-integer functions, nesting of functions, recursion, functions witharrays.

6.0 Structure and union: Structure definition, giving values to members, structure initialization, comparison of structure variables, array as structure, array within structure, union.

7.0 Pointers: Understanding pointers, accessing the address of variables, declaring and initializing pointers, accessing a variable through its pointer.

Text books:


References:

6. Brain verminghan & Dennis M. Ritchie “ANSI C Programming” (PHI)  