

### UNIT - I

Algorithm development: Definition and properties of algorithms, flow charts symbols, Types of flow chart, testing and debugging, Example of simple algorithms and flow chart. Program Development Cycle, Program design, Errors : syntax error , runtime error, logical error.

### UNIT – II

Programming in C: structure of C programs, compilation and execution of C programs, character set, keywords, data types , constants, symbolic constants and variables, expressions. Operators : Assignment , Arithmetic , Relational , Logical, Conditional , comma , Increment/Decrement, Bitwise, sizeof operator , Compound assignment operators. Associativity and precedence of C operators. Input/ output statements. Control statements - if-else, switch.

### UNIT – III

Loops - for, while, do-while .Nested loops and combined loops.  
Break and Continue statements.

C preprocessor : Symbolic constants, macro substitution - Simple, Augmented , Nested.

### UNIT – IV

Functions: built-in and user-defined functions, function declaration , Advantages of user-defined functions. Category of functions. parameter passing- call by value & call by reference, recursive functions.

Array: Creating of one dimensional array, initialization , Accessing elements of 1 D array.

Two dimensional array ,initialization , Accessing elements of 2D array.

Array and strings, string-handling functions.

### UNIT – V

Pointers: pointer variable and its importance, pointer arithmetic, array of pointers, function of pointers, structure of pointers, dynamic memory allocation functions.

Structures and Union : Declaration of structures, initialization and accessing structure members. Function and structures , Array of structure, self-referential structure, unions, enumeration.

File Input/Output – Create, Open, Read, Write, Delete, Close.

### Recommended books :

1. **Programming with C :- Schaum's outline Series**
2. **Programming with C :- E. Balagurusamy**