

C Programming

1. Basic concepts of programming-
 - a. How to write programs.
 - i. Defining Inputs, outputs
 - ii. Designing logic
 - b. How to compile and run.
 - c. How to debug
 - d. Concepts of variables, header files.
2. Variable declaration
 - a. Various data types
 - b. Constants
 - c. Character sets.
3. IO operations(printf, scanf)
4. Operators
 - a. Precedence and associativity
5. Conditional statements & loops
 - a. If-then-else
 - b. Switch-case
 - c. Goto
 - d. For, while loops
6. Arrays
 - a. Single & double dimensional arrays
 - b. Character arrays, strings
 - c. String operations using library calls.
7. Structures & Unions
 - a. Typedefs
 - b. User defined data types
 - c. Enums
8. Functions
 - a. Parameter passing-pass by value,pass by reference
 - b. Creating modular programs using functions.
 - c. Recursive functions
9. Pointers
 - a. Pointer basics and concepts
 - b. String operations using pointer manipulation
 - c. Arrays and pointer relation
 - d. Malloc and variants
10. Miscellaneous topics
 - a. Preprocessor directives
 - b. Command line arguments
 - c. Concept of libraries and APIs

- Lab Sessions:
 - Each Topic is covered with practical (lab) sessions along with classroom sessions
 - Solutions of the assignments are explained and shown practically
 - Students will undergo thorough exercises and debugging sessions