B. Sc. (IT) Part I Semester-I
Paper II
Programming Methodology in C

UNIT- I :

Programming Structure : Sequence, Selection, Iteration and Modular. Problem Solving techniques: Development Tools: Algorithm, Flowcharts and Pseudo code (Definition and its characteristics) Developing Algorithm and Drawing flowcharts

UNIT- II :

C Character set, Tokens, Identifier, Keywords, Variables, Data types, Qualifiers. Operators and Expressions: Arithmetic, Relational, Logical, Bit-Wise, Increment, Decrement, Conditional and Special operators. typedef, Type Conversion, Constants, Declaring Symbolic Constants, Character Strings, Enumerated Data Types, Operator Precedence and Associativity. Library functions. : Maths, string handling Functions. Control Structure: Compound Statement, Selection Statement: if, if-else, Nested if, switch. Iteration statement: for, while, do..while, Nested loops, Jump statement: break, continue, goto. (Special emphasis on problem solving)

UNIT- III :

Arrays: Need, Types: Single and Two Dimensional Array. Strings: Strings Manipulation, Arrays of Strings, Evaluation order Function: Function Components, Return Data type, Parameter Passing, Return by Reference, Default Arguments, Recursive Functions, Arrays with Functions, Storage Classes. (Special emphasis on problem Solving)

UNIT- IV:

Structure: Declaration, Definition, Accessing structure members, Initialization, Nesting of Structures. Union: Unions, Differences between Structure and Union Pointer: Introduction, Address Operator (&), Pointer variables, Void pointers, Pointer Arithmetic, Pointers to Pointers.
File handling: Hierarchy of File Stream Classes, Opening & closing a file, Testing for errors, File Modes, File pointers and their manipulations, Sequential Access, Random Access, Command Line arguments.