**1901GEX03** **PROGRAMMING FOR PROBLEM SOLVING** ( Common for all B.E./B.Tech Programme) L T P C 3 0 3 4

MODULE I INTODUCTION TO PROGRAMMING 9 Hours

Components of Computers and its Classifications- Problem Solving Techniques – Algorithm- Flowchart– Pseudo code – Program-Compilation -Execution

MODULE II BASICS OF C PROGRAMMING 9 Hours Structure of C program - C programming: Data Types – Storage classes - Constants – Enumeration Constants - Keywords – Operators: Precedence and Associativity - Expressions - Input/output statements – Decision making statements - Switch statement - Looping statements – Pre-processor directives.

MODULE III ARRAYS AND STRINGS 9 Hours

Introduction to Arrays: Declaration, Initialization – One dimensional array – Two dimensional arrays – Example Program: Matrix Operations - String operations

MODULE IV FUNCTIONS AND POINTERS 9 Hours

Introduction to functions: Function prototype, function definition, function call, Built-in functions –Recursion – Example Program – Pointers – Pointer operators – Pointer arithmetic – Arrays and pointers – Array of pointers – Example Program: Sorting of names – Parameter passing: Pass by value, Pass by reference – Example Program: Swapping of two numbers and changing the value of a variable using pass by reference

MODULE V STRUCTURES & FILE PROCESSING 9 Hours Structure - Nested structures – Pointer and Structures – Array of structures – Example Program using structures and pointers – Dynamic memory allocation -Files – Types - File processing: Sequential access, Random access -Command line arguments

TOTAL: 45 HOURS

REFERENCES:

1. Paul Deitel and Harvey Deitel, ―C How to Program ‖, Seventh edition, Pearson Publication

2. Juneja, B. L and Anita Seth, ―Programming in C‖, CENGAGE Learning India pvt. Ltd., 2011

3. Pradip Dey, Manas Ghosh, ―Fundamentals of Computing and Programming in C‖, First Edition, Oxford University Press, 2009.

4. Anita Goel and Ajay Mittal, ―Computer Fundamentals and Programming in C‖, Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011.

5. Byron S. Gottfried, "Schaum's Outline of Theory and Problems of Programming with C",McGrawHill Education, 1996.