

C PROGRAMMING FOR PROBLEM SOLVING

Module	Course Content	Hours	COs
1	Introduction to Computer Hardware and Software : Computer types, Functional units of computers, CPU, Primary and Secondary Memory, Input & Output Devices, Software types. Introduction to C Language: Introduction to C language, Algorithm & Flowchart, Structure of C program, C Tokens and Data types. Formatted & Unformatted Input & Output statements	08	CO1, CO2
2	Operators and Expression: Types Of Operators, Type Casting, Precedence and Associativity, Evaluation of Expression. Branching and Looping: Two way selection: if, if-else, nested if-else, switch statement, goto statement, Loops: for, while-do, do-while, break and continue.	08	CO3
3	Arrays : Introduction, Declaration & Initialization of 1D array, Bubble sort, Linear & Binary search, reading and printing of 2 D array, Programs on Matrix operations: addition, subtraction, multiplication, transpose. Strings : Declaration & Initialization of String Handling functions:	08	CO6
4	Functions: Introduction to functions, function prototype, Types of Functions, Function Definition, Function Call, Function Declaration, Categories of Functions, Actual & Formal parameters, call by value & call by reference. Recursion: Definition, general functioning of recursive functions, programs using recursive functions: Fibonacci series, factorial of given number.	08	CO4
5	Structures: Introduction to Structures, declaration and Initialization of structures, accessing members of structure, Array of structure Pointers: Introduction to Pointers, Declaration of pointers, Initialization of pointer, pointer arithmetic, Pointer to an array.	08	CO5

- Develop a C program to implement Unions.

TEXT BOOKS

1. E .Balagurusamy, "Programming in ANSI C". 7th Edition, Tata McGraw Hill
2. Vikas Gupta, "Computer Concepts and C Programming", Dreamtech Press 2013.

REFERENCE BOOKS

1. Brian W. Kernighan and Dennis M. Ritchie, "The C Programming Language", 2nd Edition, PHI, 2012.
2. R. S.Bichkar, "Programming with C", University Press, 2012.
3. V. Rajaraman, "Computer Programming in C", PHI, 2013.
4. Jacqueline Jones & Keith Harrow, "Problem Solving with C", 1st Edition, Pearson 2011.