Course Code (BCA-Cr1102)   **Semester-I**
Course Title: Problem Solving & Programming with C
Total Credits: 06

 Course Objective

         To develop logical ability and basic programming skills of students to pave the
way for problem solving

Unit I

Problem Solving: Introduction, Steps in Problem Solving, Using Computer as a Problem-
Solving Tool, Flowcharts and Algorithms (Definition, Symbols & Characteristics), Simple
Examples of Flowcharts and Algorithms, Analysis of Algorithm Efficiency, Concept of
Programming Languages and Categories of Computer Languages.

Unit-II

C- Language Fundamentals: History, Features, Structure & Life Cycle of a C- Program
Data types and sizes, Variables, Constants, Keywords, Storage Classes, Operators (Unary,
Arithmetic, logical, Bitwise, Assignment, Ternary), Expressions, Priority of Operators,
Control statements: (if-else, switch, break, continue, go to), Loops (for, while, do-while).

Unit III

Arrays, Functions & Pointers: Arrays (Linear and Multi-dimensional); Functions
(declaration, definition, and function call), parameter passing and return types; Recursion,
String Handling (built-in functions); Pointers, Array of pointers, Call by Value and Call by
Reference.

Unit IV

Structure, Union & File Handling: Declaration, Accessing structure and union elements,
Difference between Structure and Union, Array of structures; Introduction to File handling
in C, File Access Modes, File I/O Operations, Random Access to Files, Command Line
Arguments.

Reference Books

1. **H. Schildt,** A Complete Reference in C", **Tata McGraw Hills**, **New Delhi**.
2. **E. Balagurusamy,** Programming in ANSI C, **Tata McGraw Hills, New Delhi**
3. **Y. Kanetkar,** Let Us C, **BPB, New Delhi.**
4. **B. W. Keringhan & D.M Ritche ,** C Programming Language**, PHI Pvt. Ltd.**