SECOND SEMESTER

BCA – S201: Problem Solving through C - Programming

UNIT-I

Algorithm and algorithm development:

Definition and properties of algorithm, flow chart symbols, conversion of flow chart to language, example of simple algorithms, Introduction to program design, errors – syntax error, runtime error, logic error.

UNIT-II

Basics of C – Language:

History, Constants – Integer, Real, Character; Variables and Keywords; Data types and size, constants, arrays, pointers, Operators – arithmetic, relational, logical, increment and decrement, bitwise and assignment, Hierarchy of Operators and Operations, Associativity of Operators, creation and evaluation of expressions.

UNIT-III

Control Structure:

Decision Structure: - Simple if, if – else, if – else – if, nested if, switch case; Loop Control Structure: - while, do while and for; Use of break, go to and continue;

UNIT-IV

Functions:

Function definition, declaration and prototypes, Call by Value and Call by Reference, Scope Rule of Functions.

UNIT-V

Complex C-Language:

Variables – external, static, register; Recursive functions; multi – dimensional arrays; Pointers and arrays, pointer arrays, Structures – declaring and accessing elements, array of structure, File Input/Output – Create, Open, Read, Write, Delete, Close;

Recommended Books:

1. **Yashavant Kanetkar, Let us C**
2. **Balaguruswamy, Programming in C**