

# MCA 539

## Problem Solving using C

### **UNIT-I**

Overview of C- General Structure of C Program, C compilers, Editing, Compiling & , Running of a C program Data types, Constants and Variables, Operators and expressions, Storage Classes, Different types of expressions and their Evaluation, Conditional Expression, Assignment statement, Enumerated data type, Redefining/ Creating data types, Library functions, Type casting. Input/Output- Unformatted and formatted I/O Functions.

### **UNIT-II**

Control Statements- Decision making using if, if-else, elseif and switch statements, Looping using for, while and do-while statements, Transferring Program controlling break and continue statements, Programming examples to illustrate the use of these control statements.

Functions- Defining a function, Local variables, return statement, invoking a Function, specifying and passing arguments to a function, Functions returning non Integer, External, static, and register variable, block structure, initialization and recursion.

### **UNIT-III**

Array & strings- Introduction to arrays, Declaring arrays, Initializing, arrays, Processing arrays, Pointers to arrays, Passing arrays as arguments to functions, Introduction to strings, Pointers to strings, Passing strings and Arrays of strings as arguments to a function, Programming examples to illustrate the use of arrays and strings.

Pointers- Definition, Need of pointers, declaring Pointers, Accessing Values via Pointers, Pointer arithmetic, Types of pointers, Programming examples to illustrate the use of pointers.

### **Unit-IV**

Structures- Declaring a structure type, Declaring Variables of structure type, Initializing Structures, Accessing Elements of structures, arrays of structures, nested structures, Pointers to structures Programming examples to illustrate the use of Structures. File Handling.

### **Text Books:**

1. E. Balagurusamy, "Programming in ANSI C", 8E ,Tata McGraw Hill.

### **Reference Books:**

1. R S Salaria, Application in C, Khanna book publishing.
2. Yashwant Kanetakar, "Let us C" BPB.
3. Kerninghan B.W. & Ritchie D.M. "The C Programming Language" Prentice-Hall.
4. Mullish Cooper, "The Spirit of C" Jaico Publishing House.
5. Byron Gottfried, "Programming with C", Schaum's Outlines, Tata McGraw Hill.
6. Herbert Schildt, C: The complete reference, Tata mcCgraw hill.