

# AMAG02 INTRODUCTION OF COMPUTER PROGRAMMING

## UNIT-1 BASIC STRUCTURE OF C

- 1.1 Operations & expressions Basic Structure of C Programs, Keywords and Identifiers,
- 1.2 Constants, Variables, Data Types, Declaration of Variables, Declaration of Storage Class,
- 1.3 Assigning Values to Variables, Defining Symbolic Constants,
- 1.4 Declaring a Variable as Constant, Arithmetic Operators Relational Operators, Logical Operators, Assignment Operators, Increment and Decrement Operators,
- 1.5 Conditional Operator, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators,
- 1.6 Operator Precedence and Associativity, Simple IF Statement, The IF ELSE Statement, Nesting of IF ELSE Statements, The ELSE IF Ladder,
- 1.7 The Switch Statements, the: Operator, the GOTO Statement.

## UNIT-2 ITERATIVE STATEMENTS AND ARRAYS THE WHILE STATEMENT

- 2.1 The DO Statement, The FOR Statement, Introduction One- dimensional Arrays, Declaration of One dimensional Arrays,
- 2.2 Initialization of One- Dimensional Arrays, Two- dimensional Arrays,
- 2.3 Initializing two- dimensional Arrays, Multi-dimensional Arrays,
- 2.4 Declaring and Initializing String Variables, Reading Strings from Terminal,
- 2.5 Writing Strings to Screen, String-handling functions.

## UNIT-3 FUNCTIONS AND POINTERS

- 3.1 Need for User-defined Functions, A Multi-function Program, Definition of Functions,
- 3.2 Return Values and their Types, Function Calls, Function Declaration,
- 3.3 Category of Functions, Recursion, Understanding Pointers,
- 3.4 Accessing the Address of a Variable, Declaring Pointer Variables,
- 3.5 Initialization of Pointer Variables, Pointers and Arrays.

## UNIT-4 STRUCTURES

- 4.1 Introduction, Defining a structure, Declaring Structure Variables, Accessing Structure Members, Structure Initialization, Copying and comparing Structure Variables,
- 4.2 Operations on Individual Members, Arrays of Structures, Arrays within Structures,
- 4.3 Structures within Structures, Structures and Functions, Unions, Size of Structures, Bit Fields.

## UNIT-5 FILE OPERATIONS

- 5.1 Defining and Opening a File, Closing a File, Input / Output Operations on Files,
- 5.2 Random Access to Files, Dynamic Memory Allocation. Dynamic Memory Allocation

### Reference Books:

1. B.A. Forouzan and R.F. Gilberg, "Computer science, A structured programming approach using C", 3 rd ed., Thomson, 2007.
2. AL Kelley Ira Pohl, "A Book on C Programming in C", 4th ed., Pearson Education, 2009.