

# Syllabus

**Paper Title : Computer Programming Using C**

**Paper Code : PGD-1102**

**Max. Marks : 80**

**Time : 3 Hrs.**

**Course Duration : 60 Lectures of one hour each.**

## Note :

- (i) The Question Paper will consist of Four Sections.
- (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each Section and **ONE** compulsory question of short answer type covering whole syllabi.
- (iii) The students are required to attempt ONE question from each Section and the Compulsory question.
- (iv) All questions carry equal marks unless specified.

## SECTION - A

**1. Problem Solving :** Problem Identification, Analysis, Flow charts, Decision Tables, Pseudo code and algorithms, Program Coding, Program Testing and Execution.

**2. C Language Fundamentals :** 'C' Language : History, Structure of a C Program, Data types, Constants and variables, Operators and Expressions, Type casting, Type conversion, Scope Rules : Local and Global variables, I/O functions, Control constructs (Sequencing, alteration and iteration)

**3. Header files :** stdio.h, ctype.h, string.h, math.h, stdlib.h, time.h

**4. Storage classes :** automatic, external, static, register

**5. Preprocessor :** #define, #include, #undef, #conditional compilation directives (#if, #else, #elif, #endif, #ifdef and #ifndef)

## SECTION - B

**6. Functions :** Library functions, user defined functions, scope rule of functions, Parameter passing: call by value and call by reference, Recursion.

**7. Arrays :** One dimensional and two dimensional arrays, declaring arrays, initializing arrays, processing of arrays, passing arrays as arguments to functions

**8. Pointers :** Definition, Declaring pointers, accessing values via pointers, pointer arithmetic, pointer to strings, passing arguments using pointers, array of pointers.

## SECTION - C

**9. strings :** Declaring String, built-in string functions-strlen(), strcpy(), strcat(), strcmp(), array of strings, two dimensional array of characters, Array of Pointers to Strings.

**10. Structure :** Defining a structure type, declaring variables of structure type;

initializing structures. Accessing Structure Elements, array of structures, Array in Structures, Difference between array and structure, nested structures

**11. Unions :** Declaring a Union, Accessing elements of a type union.

## SECTION - D

**12. Console Input/Output :** Console I/O Functions, Formatted Console I/O Functions, printf( ) and scanf( ) Functions, Unformatted Console I/O Functions, gets( ), puts( )

**13. File Input/Output :** File Operations, Opening a File, File Opening Modes, Reading from a File, Trouble in Opening a File, Writing to a file, Closing the File.