MMA-C312
PROGRAMMING IN C

MM : 100
Time : 3 hrs
L T P
3 2 0

Sessional : 30
ESE : 70
Pass Marks : 40

NOTE: The question paper shall consist of two sections (Sec.-A and Sec.-B). Sec.-A shall contain 10 short answer type questions of six marks each and student shall be required to attempt any five questions. Sec.-B shall contain 8 descriptive type questions of ten marks each and student shall be required to attempt any four questions. Questions shall be uniformly distributed from the entire syllabus. The previous year paper/model paper can be used as a guideline and the following syllabus should be strictly followed while setting the question paper.

Functional block diagram of digital computer and functions of each component, Binary, Octal and Hexadecimal number systems, Problem solving algorithm, Flowcharts, Program development steps, Basic concepts of low level language and high level language, Compiler, Interpreter.

Structure of a C program, Pre-processor directives, Character set, Tokens in C, Keywords and identifiers, Constants, Variables, Data types, Arithmetic operators, Relational operators, Logical operators, Assignment operator, Conditional operator, Operator precedence and associativity, expressions, Declaration and initialization of variables, Reading and writing characters, Reading and writing strings, Data I/O, Qualifiers, Coercion, Manipulators, Comments, Library functions.

Branching and looping decisions, Decision making with IF, IF-ELSE, Nesting of IF-ELSE, ELSE-IF ladder, switch statement, 'for' loop, 'while' loop, 'do' loop, break, continue and goto statements.

Simple functions, Passing arguments to functions and returning values from functions, Recursion, Reference arguments, Storage classes, Scope and visibility of local and global variables.

Arrays Fundamentals, One-dimensional arrays, Two-dimensional arrays, Multi-dimensional arrays, Nesting of arrays, Passing arrays to functions, Strings, String handling functions, Array of strings.

Structures, Arrays and structures within structures, Array of structures, Passing structures to functions, Unions, Enumerations, typedef, Pointers, Pointers and arrays, Pointers and strings, Array of pointers, Reading from a file and writing in a file.

Recommended Books :
1. Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language, Prentice Hall.
2. Byron S. Gottfried, Schaum's Outline of Theory and Problems of Programming with C, McGraw-Hill.
3. E. Balagurusamy, Programming in ANSI C, Tata McGraw-Hill.
4. Yashwant Kanitkar, Let us C, B.P.B. Pub.