Subject Code : MBEPH2 :1

MAJOR BASED ELECTIVE II
COMPUTER PROGRAMMING IN C

Unit I

Introduction: Importance of C – Basic structure of C Programs – Programming Style. Constants, Variables and Data Types: Character set, Keywords and Identifiers – Constants – Variables – Data Types – Declarations of Variables – Assigning Values of variables.
Operators and Expressions: Arithmetic, Relational, Logical, Assignment, Increment and Decrement, Conditional, Bitwise, Comma Operators – Arithmetic expressions – Procedure and Associativity.

Unit II

Input Output Operator: getchar, putchar, Formatted output (printf) and Formatted input (scanf).
Control Structure: Decision making with if, - if. Else – switch – go to – The break and continue statements – while – do, while – for statements.
Arrays. One – dimensional and two dimensional arrays, declaring arrays, storing arrays in memory – initializing arrays.

Unit III

Functions: Basic functions – Return values and their types – calling functions – function arguments – external variables and scope rules.
Structures and Union: Structures – Arrays of Structures – Arrays within structures – structures and functions – Unions.

Unit IV

Pointers: Pointers and functions – arguments – Pointers and arrays – address arithmetic – character points and functions – Pointer arrays – Point arrays – Point on Pointers. Preprocessor: Macro substitution – File inclusion – Complier control directives – opening and closing a file – reading and writing data – error handling – Random Access.

Unit V

Development of algorithm, flowchart and program for the following problem.
1. Average of a set of numbers.
2. Conversion of Fahrenheit to Celsius.
3. Solving quadratic equation.
4. Finding the factorial using recursion.
5. To add/subtract/multiply two matrices.
6. To find the smallest and largest element in an array.
7. Sorting a set of numbers in ascending/ descending order.
8. To arrange the names in alphabetical order.

Books for Study

1. Programming in ANSI – C – E.Balagurusamy – Tata McGraw Hill.
2. Schaum's Outline Series Theory and Problems of Programming with C – Byron S.Gottifried, McGraw Hill, Internationals.
3. Programming with C – Venugopal, K.R.and Sudep R.P.Tata McGraw Hill, 1998.