M-SCHEME DETAILLED SYALLABUS

34033- PROGRAMMING IN "C"

UNIT I Program Development & Introduction to C

Program, Algorithm & flow chart

Program development cycle- Programming language levels & features .Algorithm – Properties & classification of Algorithm, flow chart – symbols, importance & advantage of flow chart.

Introduction to C

History of C – features of C- structure of C program – Compile, link & run a program .Diagrammatic representation of program execution process

Variables, Constants & Data types

C character set-Tokens- Constants- Key words – identifiers and Variables – Data types and storage – Data type Qualifiers – Declaration of Variables – Assigning values to variables- Declaring variables as constants-Declaring variables as volatile- Overflow & under flow of data.

UNIT II C OPERATORS, I/O STATEMENT and DECISION MAKING

C operators

Arithmetic, Logical, Assignment .Relational, Increment and Decrement, Conditional, Bitwise, Special Operator precedence and Associativity C expressions – Arithmetic expressions – Evaluation of expressions- Type cast operator

I/O statements

Formatted input, formatted output, Unformatted I/O statements

branching

Introduction – Simple if statement – if –else – else-if ladder, nested if-else-Switch statement – go statement.

Looping statements

While, do-while statements, for loop, break &continue statement.

UNIT III ARRAYS and STRINGS FUNCTIONS

Arrays

Declaration and initialization of one dimensional, Two dimensional and Character arrays – Accessing array elements – Programs using arrays.

Strings

Declaration and initialization of string variables, Reading String, Writing Strings – String handling functions (strlen(),strcat(),strcmp()) – String manipulation programs.

Built –in functions

Math functions – Console I/O functions – Standard I/O functions – Character Oriented functions. 3.4 User defined functions:- Defining functions & Needs-, Scope and Life time of Variables, , Function call, return values, Storage classes, Category of function – Recursion.

UNIT IV STRUCTURES AND UNIONS, DYNAMIC MEMORY MANAGEMENT

Structures and Unions

Structure – Definition, initialization, arrays of structures, Arrays with in structures, structures within structures, Structures and functions – Unions – Structure of Union – Difference between Union and structure.

Dynamic Memory Management

Introduction – dynamic memory allocation – allocating a block memory (MALLOC) – allocating multiple blocks of memory (CALLOC) – releasing the used space: free – altering the size of a block (REALLOC).

UNIT V “C” PROGRAMMING

Program to find Sum of Series using “while” loop - Program to find Factorial of N numbers using functions - Program to swap the values of two variables.

Program to implement Ohms Law- Program to find Resonant Frequency of RLC Circuit- Program to find equivalent resistance of three resistances connected in series and parallel- Program to draw the symbol of NPN transistor using Graphics- Program to draw the symbol of diode using Graphics.

Text book

1. Programming in ANSI C 4E by Prof. E. BALAGURUSAMY, the TATA McGraw –HILL publications.

REFERNCES

1. Programming and Problem solving using C ISRD Group, Lucknow Tata Mc- GrawHill, New Delhi Sixth Reprint 2010

2. let us C Yeswanth Kanetkar BPB Publications Fourth Revised Edition

3. A TextBook on C E.Karthikeyan PHI Private Limited, New Delhi 2008

4. Programming in C D.Ravichandran New Age International Publishers C FirstEdition 1996 Reprint2011

5. Computer Concepts and Programming in C Dr.S.S.Khandare S.Chand & Company Ltd. New Delhi