DETAILED SYLLABUS

UNIT - I Program Development & Introduction to C   15 Hrs
1.1 Program Algorithm & flow chart:- Program development cycle Programming language levels & features. Algorithm – Properties & classification of Algorithm, flow chart – symbols, importance & advantage of flow chart.
1.2 Introduction C: - History of C – features of C structure of C program – Compiling, link & run a program. Diagrammatic representation of program execution process.
1.3 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- Declaration – Variables as volatile- Overflow & under flow of data
1.4 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
1.5 I/O statements: Formatted input, formatted output, Unformatted I/O statements

UNIT – II DECISION MAKING, ARRAYS and STRINGS   16 Hrs
2.1 Branching:- Introduction – Simple if statement – if –else – else-if ladder , nested if-else-Switch statement – go statement – Simple programs.
2.2 Looping statements:- While, do-while statements, for loop, break & continue statement – Simple programs
2.3 Arrays:- Declaration and initialization of One dimensional, Two dimensional and Character arrays – Accessing array elements – Programs using arrays
2.4 Strings: - Declaration and initialization of string variables, Reading String, Writing Strings – String handling functions (strlen(),strcat(),strcmp()) – String manipulation programs

UNIT – III FUNCTIONS, STRUCTURES AND UNIONS   16 Hrs
3.1 Built –in functions: -Math functions – Console I/O functions – Standard I/O functions – Character Oriented functions – Simple programs.
3.2 User defined functions:- Defining functions & Needs-, Scope and Life time of Variables, , Function call, return values, Storage classes, Category of function – Recursion – Simple programs
3.3 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 – Simple programs.

UNIT - IV POINTERS   17 Hrs
4.1 Pointers:- Definition – advantages of pointers – accessing the address of a variable through pointers - declaring and initializing pointers- - array of pointers- pointers and array - pointer and character strings –function arguments – pointers to functions – pointers and structures – programs using pointer.
4.2 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) – simple programs

UNIT –V FILE MANAGEMENT AND PREPROCESSORS   16 Hrs
5.1 File Management: Introduction-Defining and opening a file-closing a file-Input/ Output operations on files—Error handling during I/O operations –Random Access to files—Programs using files
5.2 Command line arguments: Introduction – argv and argc arguments – Programs using command Line Arguments –Programs

5.3 The preprocessor: Introduction – Macro Substitution, File inclusion, Compiler control directives.

REFERNCES:

S.No	Title	Author	Publisher	Year of Publishing/ Edition
1.	Programming and Problem solving using C	ISRD Group, Lucknow	Tata Mc-GrawHill, NewDelhi	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,Chennai	FirstEdition 1996 Reprint 2011
5.	Computer Concepts and Programming in C	Dr.S.S.Khandare	S.Chand & Company Ltd. New Delhi	FirstEdition 2010
6.	Complete Knowledge in C	Sukhendu Dey, Debobrata Dutta	Narosa Publishing House, New Delhi	Reprint 2010
7.	Programming in C	Reema Theraja	Oxford University Press	FirstEdition 2011
8.	Practical C Programming	Steve Oualline	O'Reilly, Shroff Publishers andDistributors	Eleventh Indian Reprint Oct 2010