



Chapter 1 : Flowchart and Algorithm and Basics of 'C'		1-1 to 1-43
1.1	Computer	1-2
1.2	Three Constructs of Algorithm : Decision, Sequence and Repetition	1-2
1.2.1	Properties of Algorithm or Points to be Considered while Developing the Algorithm.....	1-2
1.2.2	Developing an Algorithm.....	1-3
1.2.2(A)	Sequence Algorithm	1-3
1.2.2(B)	Repetition Algorithms.....	1-5
1.2.2(C)	Decision Algorithm.....	1-6
1.2.3	Flowcharts : Decision, Sequence and Repetition	1-7
1.3	Programming and Programming Languages	1-9
1.4	History of C / C++ Programming Languages	1-10
1.5	Procedure Oriented Programming	1-10
1.6	Features of C Programming Language.....	1-11
1.7	Tokens of C	1-11
1.7.1	Character Set of C	1-11
1.7.2	Keywords.....	1-12
1.7.3	Identifiers.....	1-12
1.7.4	Scalar Data Types in C.....	1-13
1.7.5	Constants and Variables.....	1-14
1.7.6	Escape Sequences.....	1-15
1.7.7	Operators.....	1-15
1.8	Structure of a C Program	1-15
1.8.1	Enumerated Data Type.....	1-16
1.9	Integrated Development Environment (IDE) : Editor, Preprocessor, Compiler, Linker and Loader.....	1-17
1.10	Operators.....	1-17
1.10.1	Unary Operators	1-18
1.10.2	Binary Operators	1-20
1.10.3	Ternary/Conditional Operator	1-21
1.10.4	Assignment Operators and Statements	1-22



1.10.5	Selection and Comma Operators	1-23
1.11	Precedence and Associativity of Operators.....	1-23
1.12	Expressions in C : Arithmetic and Boolean Expressions.....	1-24
1.13	Use of Standard (Input and Output) Functions	1-26
1.13.1	Formatted IO Functions	1-26
1.13.2	Unformatted IO Functions	1-27
1.13.3	Builtin Functions.....	1-27
1.14	Program Examples.....	1-27

Chapter 2 : Decision Statements and Control Structure
2-1 to 2-55

2.1	Ordering a Solution in a Loop.....	2-1
2.2	C- Control Structures for Iteration.....	2-2
2.2.1	for Loop.....	2-2
2.2.1(A)	Programs Based on for Loop	2-2
2.2.1(B)	Nested for Loop.....	2-10
2.2.2	while and do-while Loops.....	2-22
2.2.2(A)	Programs Based on while and do-while Loop	2-25
2.3	C-Control Structures for Selection	2-33
2.3.1	if-else Selective Statement.....	2-33
2.3.1(A)	Programs using if-else Statement.....	2-34
2.3.1(B)	if-else Ladder or if-else if.....	2-39
2.3.2	Switch-Case Selective Statement.....	2-42
2.3.3	Branching Statements (Break, Continue and Goto).....	2-47
2.3.4	Some More Practice Programs.....	2-50
2.3.5	Comparison of if else, switch, Ladder if else and Nested if else	2-52
2.3.6	Comparison between Break and Continue	2-53

Chapter 3 : Functions
3-1 to 3-17

3.1	Defining Functions in C.....	3-1
3.1.1	Functions in math.h Header File	3-2
3.1.2	Inbuilt Functions.....	3-2



3.2	Functions and Parameters.....	3-5
3.3	Introduction to Recursive Functions	3-11
3.4	Storage Classes for Scalar Type Data.....	3-14

Chapter 4 : Arrays**4-1 to 4-30**

4.1	Single Dimensional Arrays.....	4-1
4.1.1	Passing Arrays to Function.....	4-8
4.2	Multi-dimensional Arrays	4-17
4.3	Strings.....	4-23
4.4	The Header File string.h.....	4-24
4.4.1	strlen() Function.....	4-24
4.4.2	strcpy() Function.....	4-24
4.4.3	strcmp() Function	4-25
4.4.4	strcat() Function.....	4-25
4.5	Programs Based on Strings.....	4-26
4.6	Some More Programs Based on Arrays and Strings.....	4-28

Chapter 5 : Pointers**5-1 to 5-9**

5.1	Pointers.....	5-1
5.1.1	Referencing and De-referencing (Operators in Pointers).....	5-2
5.2	Programs Related to Pointers	5-2
5.2.1	Simple Referencing and De-referencing using Pointers	5-2
5.2.2	Pointer to Pointer.....	5-3
5.2.3	Operation on Pointers.....	5-3
5.2.4	Pointer to Array	5-4
5.2.4(A)	Relation between Arrays and Pointers	5-4
5.2.5	Passing Pointers to Functions.....	5-5
5.2.6	Call by Value and Call by Reference	5-6
5.2.7	Dynamic Memory Allocation	5-7



Chapter 6 : Structure, Union and Files	6-1 to 6-16
6.1 Structures.....	6-1
6.2 Arrays of Structure Variable	6-3
6.3 Nested Structures.....	6-8
6.4 Unions	6-9
6.4.1 Comparison between Structure and Union	6-10
6.5 File Handling in C	6-11
