

**Diploma in Computer Science and Engineering / Information Science Engg
Second Semester**

Subject: 'C' Programming

Contact Hrs / Week: 4

Contact Hrs / Semester: 64

CURRICULUM

SL	Topics	Hours	Marks
	Section - I		
1	Introduction to 'C' Language	12	30
2	Condition and Loops	12	30
	Section - II		
3	Arrays	12	30
4	Strings	4	10
	Section - III		
5	Structures & Unions	8	20
6	Functions	8	20
7	Preprocessor	4	10
	Tests & Assignment	4	
	Total	64	150

CONTENTS

Topics	Content	Periods	
1	Introduction to 'C' Language	12	
1.01	Character set, Variable and Identifiers, Built-in Data Types, Variable Definition, Declaration, C Key Words-Rules & Guidelines for Naming Variables.		
1.02	Arithmetic operators and Expressions, Constants and Literals, Precedence and Order of Evaluation.		
1.03	Simple assignment statement, Basic input/output statement.		
1.04	Simple 'C' programs.		
2	Condition and Loops	12	
2.01	Decision making within a Program.		
2.02	Conditions, Relational Operators, Logical Operator.		
2.03	if statement, if-else statement.		
2.04	Break, Continue, Switch, Goto and Labels.		
2.05	Loop statements.		
3	Arrays	12	
	What is an Array?, Declaring an Array, Initializing an Array. One dimensional arrays: Array manipulation; Finding the largest/smallest element in array; Searching & Sorting of element from an array; Declaring & Initialization of Two dimensional arrays, Addition/Multiplication of two matrices, Transpose of a square matrix; Null terminated strings as array of characters.		
4	Strings	4	

	Introducton, Declaring & Initialising string variables, Reading & writing strings from variables, Arithmetic operations & chracters, Putting strings together, Comparison of two strings, String handling functions		
5	Structures & Unions	8	
	Basic of Structures, Structures variables, initialization, structure assignment, nested structure, structures and arrays: arrays of structures,Unions, Size of structures, Bit fields		
6	Functions	8	
	Definition of Functions, Standard Library of C functions, Prototype of a function: Formal parameter list, Return Type, Function call, Block structure, Passing arguments to a Function: call by value, arrays as function arguments, Structure and functions		
7	Pre-Processors	4	
	Introduction, Macro substituion, File inclusion		

Text Book:

1	Programming with ANSI-C, Fourth Edition, Tata Mcgraw Hill.	E. Balaguruswami
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2	C Programming By Dr. M A Jayarama & D S Rajendra Prasad,Sapna Publications
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Reference Books

SL	Title/Publisher	Author
1	Programming with C, Second Edition, Tata Mcgrawhill, 2000.	Byron Gottfried
3	Programming with ANSI & Turbo C, First Edition, 2002, Pearson Education.	A. Kamthane
4	Basics of Computers and Applications with C programming.	Rajesh Hongal
11	Let us C, BPB Publication, New Delhi.	Yashwant Kanetkar

General Objectives

- Comprehend the different operators.
- Understand the basic input/output statements.
- Understand the control structures.
- Understand the arrays concept.
- Solve simple problems using arrays.
- Know the user defined functions.
- Design a function to solve a problem.
- Understand the structure and union concept.
- Appaise different string functions
- Understand Preprocessor statement

Specific Objectives

- List the character set.
- Define the following
keyword, variable, constants.
- Describe the built-in data types.
- List the variables naming rules.
- Explain the arithmetic, relational, logical operators and expression.
- Discuss the precedence and order of evaluation.
- Describe the simple assignment & Basic input/output statements.
- Write simple C programs.
- List different types of control structures.
- Describe if, if-else, switch conditional statements.
- Explain for, while, do-while loop control structure.
- Define break, continue, goto, labels.
- Define array, string.
- Classify array.
- Discuss insertion, deletion, sorting, searching operations on single dimensional array.
- Explain addition, subtraction, multiplication, transpose operations on matrices.
- Define function.
- Describe function prototyping.
- List built in functions.
- Define formal, actual parameters.
- Describe block structure.
- Explain call-by-value
- Describe basics of structure & Unions
- Restate structure variables, initialization, assignment.
- Explain nested structures, structure & functions, structure & arrays.
- Explain C Preprocessing statements

