

Description	Subject Teaching Methodology	L	T	P	C
Course/ Code	COMPUTER PROGRAMMING LAB Common to (CE, EEE, ME, ECE, CSE, AME, MIN)	0	0	3	3
Teaching	Total contact hours - 50				
Prerequisite (s)	Basic knowledge about Computer, Algorithm and Flowchart.				

Course Objective(s):

- To impart adequate programming skills to solve mathematical problems
 - To develop programming skills using the fundamentals and basics of C language.
 - To enable effective usage of arrays, strings, functions, pointers and files.
1. Write a C Program to
 - a) Calculate the area of triangle using the formula
Area = (s (s-a) (s-b) (s-c)) 1/2, where s= (a+b+c)/2
 - b) To find the largest of three numbers using ternary operator.
 - c) To swap two numbers without using a temporary variable.
 2. Write a C program that uses functions to perform the following operations using Structure:
 - a) Reading a complex number
 - b) Writing a complex number
 - c) Addition of two complex numbers
 3. Write a C program to
 - a) 2's complement of a number is obtained by scanning it from right to left and complementing all the bits after the first appearance of a 1. Thus 2's complement of 11100 is 00100. Write a C program to find the 2's complement of a binary number.
 - b) Find the roots of a quadratic equation.
 - c) Take two integer operands and one operator form the user, Performs the operation and then prints the result. (Consider the operators +, -, *, /, % and use Switch Statement)
 4. Write a C Program to
 - a) Check whether the given number is Armstrong number or not.
 - b) Check whether the given number is palindrome or not.
 5. Write a C program to
 - a) Find the sum of individual digits of a positive integer and find the reverse of the given number.
 - b) A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C program to generate the first n terms of the sequence.
 - c) Generate all the prime numbers between 1 and n, where n is a value supplied by the user.
 6. Write a C Program to
 - a) Print the multiplication table of a given number n up to a given value, where n is entered by the user.

- b) Enter a decimal number, and calculate and display the binary equivalent of that number.
 - c) Enter a binary number, and calculate the decimal equivalent of that number.
7. Write a C program to
 - a) Interchange the largest and smallest numbers in the array.
 - b) Implement a liner search.
 - c) Implement binary search.
 8. Write a C program to
 - a) Examples which explore the use of structures, union and other user defined variables.
 - b) Declare a structure for calculating the percentage achieved by 3 students, by considering the structure elements as name, pin no, mark1, mark2, mark3.
 9. Write C Programs
 - a) For the following string operations without using the built in functions
 - i. to reverse a strings
 - ii. to append a string to another string
 - iii. to compare two strings.
 - b) Write C Programs for the following string operations without using the built in functions
 - i. to find the length of a string
 - ii. To find whether the given string “MADAM” is palindrome or not.
 10. Write a C program
 - a) Use functions to perform the following operations:
 - i. To insert a sub-string in to given main string from a given position.
 - ii. To delete n Characters from a given position in a given string.
 - b) To replace a character of string either from beginning or ending or at a specified location
 11. Write C Programs for the following string operations with and without using the built in functions
 - a) Write C Program to reverse a string using pointers.
 - b) Write a C program to concatenate two strings by using pointer.
 12. Write C programs that use both recursive and non-recursive functions for the following
 - a) To find the factorial of a given integer.
 - b) To find the GCD of two given integers.
 - c) To find Fibonacci sequence.
 13. Write C programs to
 - a) Find the area of triangle by using call by value and call by reference concepts.
 - b) Pointer based function to exchange value of two integers using passing by address.
 - c) Compare two strings by using call by address.
 - d) Separate the even and odd elements of an array into two different arrays by using call by value.

Course Outcomes:**After successful completion of this course, a successful student will be able to:**

- CO-1. To know the structure and syntax of a programming language.
- CO-2. To develop code for simple mathematical problems.
- CO-3. To write the programs using arrays, structures and pointers

Course Code : Computer Programming Lab													
Course designed By: Department of Computer Science and Engineering													
	Program Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Course Outcomes	CO1	✓											
	CO2			✓									
	CO3					✓							
	CO4					✓							
	CO5	✓		✓		✓							
Category		General Humanities			Basic Sciences		Engineering Sciences and Technical			Professional Subjects			
							✓						
Mode of Evaluation: Quiz, Assignment, Seminar, Written Examination.													