JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

I Year - I Semester		L	T	P	C
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PROGRAMMING FOR PROBLEM SOLVING USING C LAB					

Course Objectives:
1) Apply the principles of C language in problem solving.
2) To design flowcharts, algorithms and knowing how to debug programs.
3) To design & develop of C programs using arrays, strings pointers & functions.
4) To review the file operations, preprocessor commands.

Exercise 1:
1. Write a C program to print a block F using hash (#), where the F has a height of six characters and width of five and four characters.
2. Write a C program to compute the perimeter and area of a rectangle with a height of 7 inches and width of 5 inches.
3. Write a C program to display multiple variables.

Exercise 2:
1. Write a C program to calculate the distance between the two points.
2. Write a C program that accepts 4 integers p, q, r, s from the user where r and s are positive and p is even. If q is greater than r and s is greater than p and if the sum of r and s is greater than the sum of p and q print "Correct values", otherwise print "Wrong values".

Exercise 3:
1. Write a C program to convert a string to a long integer.
2. Write a program in C which is a Menu-Driven Program to compute the area of the various geometrical shape.
3. Write a C program to calculate the factorial of a given number.

Exercise 4:
1. Write a program in C to display the n terms of even natural number and their sum.
2. Write a program in C to display the n terms of harmonic series and their sum. $1 + 1/2 + 1/3 + 1/4 + 1/5 \ldots 1/n$ terms.
3. Write a C program to check whether a given number is an Armstrong number or not.

Exercise 5:
1. Write a program in C to print all unique elements in an array.
2. Write a program in C to separate odd and even integers in separate arrays.
3. Write a program in C to sort elements of array in ascending order.

Exercise 6:
1. Write a program in C for multiplication of two square Matrices.
2. Write a program in C to find transpose of a given matrix.

Exercise 7:
1. Write a program in C to search an element in a row wise and column wise sorted matrix.
2. Write a program in C to print individual characters of string in reverse order.

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Exercise 8:
1. Write a program in C to compare two strings without using string libraryfunctions.
2. Write a program in C to copy one string toanotherstring.

Exercise 9:
1. Write a C Program to Store Information Using Structures with Dynamically Memory Allocation
2. Write a program in C to demonstrate how to handle the pointers intheprogram.

Exercise 10:
1. Write a program in C to demonstrate the use of & (address of) and *(value at address)operator.
2. rite a program in C to add two numbersusingpointers.

Exercise 11:
1. Write a program in C to add numbers using callbyreference.
2. Write a program in C to find the largest element using DynamicMemoryAllocation.

Exercise 12:
1. Write a program in C to swap elements using callbyreference.
2. Write a program in C to count the number of vowels and consonants in a string using apointer.

Exercise 13:
1. Write a program in C to show how a functionreturningpointer.
2. Write a C program to find sum of n elements entered by user. To perform this program, allocate memory dynamically using malloc()function.

Exercise 14:
1. Write a C program to find sum of n elements entered by user. To perform this program, allocate memory dynamically using calloc( ) function. Understand the difference between the abovetwoprograms
2. Write a program in C to convert decimal number to binary number usingthefunction.

Exercise 15:
1. Write a program in C to check whether a number is a prime number or not using the function.
2. Write a program in C to get the largest element of an array usingthefunction.

Exercise 16:
1. Write a program in C to append multiple lines at the end of atextfile.
2. Write a program in C to copy a file inanothername.
3. Write a program in C to remove a file fromthedisk.

Course Outcomes:

By the end of the Lab, the student
1) Gains Knowledge on various concepts of aClanguage.
2) Able to draw flowcharts andwritealgorithms.
3) Able design and development of C problemsolvingskills.
4) Able to design and develop modularprogrammingskills.
5) Able to trace and debugaprogram