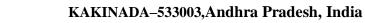
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA



R-19 Syllabus for ME - JNTUK

I Year-I Semester	L	Т	Р	С
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PROGRAMMING FOR PROBLEM SOLVING USING C LAB (ES1102)

Prerequisite Course: Students require Basic knowledge of C language.

Course Description and Objectives:

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

CO	Course Outcomes	POs
1	Gains Knowledge on various concepts of a C language.	3
2	Able to draw flowcharts and write algorithms.	4
3	Able design and development of C problem solving skills.	3
4	Able to design and develop modular programming skills.	5
5	Able to trace and debug a program	3

Syllabus:

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. $1 + 1/2 + 1/3 + 1/4 + 1/5 \dots 1/n$ 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.

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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.

Exercise 8:

1. Write a program in C to compare two strings without using string library functions.

Write a program in C to copy one string to another string.

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 in the program.

Exercise 10:

- 1. Write a program in C to demonstrate the use of & (address of) and *(value at address) operator.
- 2. Write a program in C to add two numbers using pointers.

Exercise 11:

- 1. Write a program in C to add numbers using call by reference.
- 2. Write a program in C to find the largest element using Dynamic Memory Allocation.

Exercise 12:

- 1. Write a program in C to swap elements using call by reference.
- 2. Write a program in C to count the number of vowels and consonants in a string using a pointer.

Exercise 13:

- 1. Write a program in C to show how a function returning pointer.
- 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 above two programs
- 2. Write a program in C to convert decimal number to binary number using the function.

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 using the function.

Exercise 16:

- 1. Write a program in C to append multiple lines at the end of a text file.
- 2. Write a program in C to copy a file in another name.
- 3. Write a program in C to remove a file from the disk.