EC-155 **C PROGRAMMING LAB** **L T P C**
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COURSE OBJECTIVES:

1. To understand the ANSI C/Turbo C compilers.
2. To develop various menu driven programs using conditional and control flow statements.
3. To develop programs using structures, unions and files.
4. To develop 'C' programs for various applications. .

COURSE OUTCOMES:

After successful completion of the course, the students will be able to

1. develop algorithms and flowcharts for simple problems.
2. use suitable control sturctures for developing code in C.
3. design modular programs using the concept of functions and arrays.
4. develop code for complex applications using stuctures,pointers and file handling features.

List of Experiments:

1. Write a program for electricity bill taking different categories of users, different slabs in each category. (Using nested if else statement or Switch statement.

Domestic level consumption as follows	
Consumption units	Rate of charges(Rs.)
0 - 200	0.50 per unit
201 - 400	100 plus 0.65 per unit
401 - 600	230 plus 0.80 per unit
601 and above	390 plus 1.00 per unit
Domestic level consumption as follows	
Consumption units	Rate of charges(Rs.)
0 - 100	0.50 per unit
101 - 200	50 plus 0.60 per unit
201 - 300	100 plus 0.70 per unit
301 and above	200 plus 1.00 per unit

2. Write a C program to evaluate the following (using loops):
   (i) $x - x^3 / 3! + x^5 / 5! - x^7 / 7! +$ ---------- up to n terms
   (ii) $1 + x + x^2 / 2! + x^3 / 3!$ + ---------- up to n terms
   (iii) $1 - x^2 / 2! + x^4 / 4! - x^6 / 6! +$ ---------- up to n terms
3. Write a menu driven program to test whether a given number is (using Loops):
   (i) Prime or not (ii) Perfect or not (iii) Armstrong or not (iv) Strong or not (v) Palindrome or not
4. Write a menu driven program to display statistical parameters (using one - dimensional array)
   (i) Mean (ii) Median (iii) Mode (iv) Standard deviation
5. Write a menu driven program to perform the following operations in a list (using 1-Dimen. array)
   (i) Insertion of an element (ii) Deletion of an element (iii) Remove duplicates from the list
   (iv) Print the list
6. Write a menu driven program with options (using two dimensional array)
   (i) To compute A+B (ii) To compute A x B
   (iii) To find transpose of matrix A, Where A and B are matrices.
7. Write C programs to perform the following using Strings
   (i) To test the given string is palindrome or not (ii) To sort strings in alphabetical order

8. Write a C programs using recursive functions
   (i) To find the Factorial value (ii) To generate Fibonacci series
   (iii) To find the GCD of two given numbers
9. Write a menu driven program with options (using dynamic memory allocation)
   (i) Linear search (ii) Binary search
10. Write a menu driven program with options (using Character array of pointers)
   (i) To insert a student name (ii) To delete a name (iii) To print list of names
   (iv) To sort names in alphabetical order
11. Write a program to perform the following operations on Complex numbers (using Structures & pointers):
   (i) Read a Complex number (ii) Addition, subtraction and multiplication of two complex numbers
   (iii) Display a Complex number
12. Write a C programs to perform the following operations on files
   (i) merging the contents of two files (ii) writing, reading and updation of student records in a file
   (iii) Copy the contents of one file into another using command line argument.

Note: A minimum of 10(Ten) experiments have to be performed and recorded by the candidate to attain eligibility for Semester End Practical Examination.