Paper Cade: BCADSC 1.6	**Paper Title:** C Programming Lab	**Teaching Hours:** 3 Hrs / Week
	Marks: Th-40+IA-10	**Credits:** 1

Students are encouraged to use Linux-Open Source OS for executing c –programs using gcc/similar compiler available with Linux.Students shall gain familiarity with working in Linux environment with the help of course teacher in Lab. Following shall be practiced
• Using vi/gedit/geany editor for writing c programs
• Familiarity with bash/similar shell for executing basic shell commands such as ls, cd, mv, mkdir, rm, cat,etc.
URL for reference:
http://www.ee.surrey.ac.uk/Teaching/Unix/
https://www.tutorialspoint.com/unix/unix-vi-editor.html
https://www.tutorialspoint.com/compile_c_online.php

Note: Students shall draw flow charts/algorithms for all programs.
Assignment Programs   -
Section A:
1. Write a program to enter P, T, R and calculate Simple Interest.
2. Write a program to check whether year is leap year or not using conditional/ternary operator.
3. Write a program to find HCF (GCD) of two numbers.
4. Write a C program that accepts a number 'n', and prints all prime numbers between 1 to n.
5. Write a C program to print sum of even numbers and sum of odd numbers from array of integers.
6. Write a program to find maximum between three numbers.
7. Write a program to function as a basic calculator; it should ask the user to input what type of arithmetic operation he would like, and then ask for the numbers on which the operation should be performed. The calculator should then give the output of the operation. Use switch. Error message should be reported, if any attempt is made to divide by zero.
8. Program to generate and print first n Fibonacci numbers.
9. Write a C program to concatenate two strings without using library function
10. Write a C program to create array of structure which stores Roll No, Name and Average marks of students. Accept 'n' students and print it in proper format.

Section B:
1. Write a C program to add two matrices.
2. Write an iterative function calculate factorial of a given integer.
3. Write a function that accepts array of integers to find maximum and minimum element in an array.
4. Write a C program to illustrate difference between structure and union by defining emp_no ,emp_name, salary as members and display the size of the defined structure
5. Write a C program that reverse a given integer number and check whether the number is palindrome or not.
6. Write a program that takes in three arguments, a start temperature (in Celsius), an end temperature (in Celsius) and a step size. Print out a table that goes from the start temperature to the end temperature, in steps of the step size; Celsius to Fahrenheit.

Practice programs –
1. Write a C program to calculate area and circumference of a circle.
2. Write a program to check whether an alphabet is vowel or consonant using switch case.
3. Write a C Program to check the given number is Armstrong number or not? Armstrong number is a number that is the sum of its own digits each raised to the power of the number of digits. Example: $153 = 1\verb|^|3 + 5\verb|^|3 +3\verb|^|3$
4. Write a C program to add two complex numbers by passing structure to a function. Consider the following structure definition for complex number.
   typedefstruct complex
   {
   float real;
   floatimag;
   } complex;