# OBJECT ORIENTED PROGRAMMING
# LAB ASSIGNMENT -1

## (Topics – Basics of C++, Classes and Objects)

**Programming Questions**

1. Write a program (WAP) to display "Hello World" on console display. WAP to implement the following control characters:
   '\n' is for new line, or you can use *endl* – cout<<endl<<"message";
   '\t' is for tab ; '\a' is an alarm sound; '\r' is carriage return to go to the beginning of the current line

2. Write a C++ program that will ask for a temperature in Celsius and display it in degree Fahrenheit.[F=9C/5+32]
3. WAP to demonstrate for, while, do-while (with all possible variations), like for loop can be demonstrated without giving initialization in for construct or without giving increment in for construct.

   **Sample:**
   for (**int** i=0; i<10; i++)

   i=0
   for (; i<10; i++)

   i=0
   for (; i<10;)
   i++

4. Implement *namespace* in a program to illustrate the use of same name variables and functions in different sections/libraries of the code.

5. Create a structure in C++ containing the details of Students as details below and a main function to execute the structure.

   ***Data Members(properties):***

   *Name*
   *Roll No*
   *Degree*
   *Hostel*
   *CurrentCGPA*

***Member Function(behavior):***

*addDetails();*
*updateDetails();*
*updateCGPA();*
*updateResidenceInfo();*
*displaydetails();*

6. Differentiate between private and public access/scope. Perform the question no. 5 with class instead of structure with having the member functions in private scope. Students should be able to
   a) differentiate between structure in C vs structure in C++
   b) differentiate between structure in C++ vs class in C++

7. Create a code snippet that illustrates the following:
   a. Calling of private member functions inside public member function
   b. Access private member functions inside public member function
8. Define a class named ***Complex*** with properties (real and imaginary) and methods as per following details.

   ***void set (float, float)*** to initialize object values.
   ***void display ()*** to display complex number.
   ***Complex sum (Complex)*** to add two complex numbers (objects of Complex class) and ***return complex_number*** (object of Complex class) as result.

   Properties (real and imaginary) of the code should have private access modifier and member functions should have public access modifier in C++ class