**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

1. Write a C++ program that will ask for a temperature in Celsius and display it in degree Fahrenheit.[F=9C/5+32]
2. 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++

1. Implement *namespace* in a program to illustrate the use of same name variables and functions in different sections/libraries of the code.
2. 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();*

1. 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
2. differentiate between structure in C vs structure in C++
3. differentiate between structure in C++ vs class in C++
4. Create a code snippet that illustrates the following:
   1. Calling of private member functions inside public member function
   2. Access private member functions inside public member function
5. 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