**31-03-2021 Lab Exercises**

1. Create a class that stores a String and all its status details such as number of upper case characters, lower case characters, words, vowels and special characters through appropriate member functions and constructors.
2. Write a C++ program to dynamically allocate memory to a string. Write suitable friend functions to encrypt and decrypt the string and display it properly. Deallocate the memory properly during the termination.
3. Write a C++ program to increment/decrement a Timer (HH:MM:SS) using incrementation and decrementation operator overloading.
4. Write a C++ program to overload unary minus and & operator in a fraction class.
5. Write a C++ program to overload arithmetic assignment operators overloading using friend functions. Display the output by overloading << operator.
6. Write a C++ program to find out the area and volume of a Polygon by overloading the function call operator.
7. Write a C++ program to overload >, <, >=, !=, = operators on Strings using classes.
8. Write a C++ program to overload the array subscript operator while multiplying two matrices.
9. Write a C++ program to dynamically allocate an integer array. Identify the greatest and smallest element of the array using object passing and returning mechanism. Overload new and delete operators appropriately during allocation and deallocation.