**CSL411 COMPILER LAB**

**LAB CYCLE-2022**

1. Design and implement a lexical analyzer using C language to recognize all valid tokens in the input program. The lexical analyzer should ignore redundant spaces, tabs and newlines. It should also ignore comments.
2. a) Write a lex program to display the number of lines, words and characters in an input text.

b) Write a LEX Program to convert the substring abc to ABC from the given input string.

c) Write a lex program to find out total number of vowels and consonants from the given input sting.

3. a) Generate a YACC specification to recognize a valid arithmetic expression that uses operators +, – , \*,/ and parenthesis.

b) Generate a YACC specification to recognize a valid identifier which starts with a letter followed by any number of letters or digits.

4. Implementation of Calculator using LEX and YACC

5. Write a program to convert NFA to DFA.

6. Write a program to find First of any given grammar.

7. Design and implement a recursive descent parser for a given grammar.

8. Construct a Shift Reduce Parser for a given language.

9. Write a program to perform constant propagation.

10. Implement Intermediate code generation for simple expressions.