B.Tech. in Computer Science &Engineering

Semester: VII, Academic Year: 2022-23, Term: Odd

Course Code & Name	2CS701 – Compiler Construction

Sr. No.	Title	Hour(s)	Mapped CLO
1	**To implement lexical analyse to recognize all distinct token classes:** use flex/lex tool to recognize all distinct token classes (Data type, Identifier, constant (Integer, Float, Char, String), Operator (Arithmetic, Relational, Assign, Unary +/-, Increment), Single line/Multi-line comments, Special symbol(;,{}())) . Generate Lexical error reports for invalid lexeme.	02	1,2,4
2	**To implement a Recursive Descent Parser Algorithm for the grammar.**	02	1,2,4
3	Write a program to find first( ), and follow() set for each non-terminal of given grammar.	04	1,4
4	**To Implement Left Recursion derivation removal algorithm** : Eliminate direct and indirect Left recursion from given grammar for LL(1) parser.	04	1,4
5	**To implement a calculator in YACC: Syntax Directed Translation** Extend practical assignment 1 to generate a Symbol Table for identifiers, and label in the code. (Symbol Table columns : Name, Value) Use YACC to Write a Grammar for multiple expression statements, and apply syntax directed translation for calculator.	04	1,2,4
6	**Intermediate Code Generation:** To generate Three Address code for assignment statement	02	1,2,4
7	**To implement grammar rules for control statements, and Loop control**.	04	1,2,4
8	**To implement a Type Checker.:** Extend experiment 5 to assign Data type to each identifier as per declaration statement. Verify Data type as per each programming construct and report appropriate error message	02	1,2,4
9	**To implement Assembly code generator.:** Extend practical 6 to generate an assembly code. (use getReg() algorithm)	02	1,2,4
10	**To implement Code Optimization techniques:** Implement any code optimization technique.	04	1,3,4
	Total	**[30]**	