

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG DEGREE END SEMESTER THEORY EXAMINATIONS, APR/MAY 2026*****Fifth Semester******Computer Science and Engineering*****CS3501 - COMPILER DESIGN*****Regulations - 2021******Duration : 3 Hrs******Maximum : 100 Marks******PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Define the following terms: a) Lexeme b) Token.	L1	1	2
2.	List the differences between NFA and DFA.	L2	1	2
3.	What is Context free grammar?	L1	2	2
4.	Eliminate immediate left recursion for the following grammar: E->E+T T T->T* F F F-> (E) id	L3	2	2
5.	Outline the role of intermediate code generator in compilation process.	L2	3	2
6.	Generate the three-address code for the following code snippet. If A<B then t=1 else t=0	L3	3	2
7.	List the issues involved in the design of a code generator.	L2	4	2
8.	Compare call by value and call by reference.	L4	4	2
9.	What is peep-hole optimization?	L1	5	2
10.	List the advantages of code optimization.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11. a	Analyze the phases of compiler with the following statement $x=a+b*60$.	L4	1	16
	Or			
b	Construct an FA equivalent to the regular expression $(0+1)^*(00+11)(0+1)^*$.	L4	1	16
12. a	Construct the predictive parser for the following grammar S->(L)/a L->L,S/S	L6	2	16
	Or			
b	Find the SLR parsing table for the given grammar. E->E+T/T T->T*F/F F->E/id	L6	2	16
13. a i	Explain about Type checking and Type Conversion with examples.	L2	3	6
ii	Translate the following expression $(a + b) * (c + d) + (a + b + c)$ into a) Quadruples b) Triples.	L2	3	10

Or

	b	i	Discuss the different types of three address code. How would you implement the three address statements? Explain with examples.	L2	3	8
		ii	Describe the process involved in back patching.	L2	3	8
14.	a	i	Discuss the storage organization in runtime environments. Compare static, stack and heap allocation strategies.	L2	4	8
		ii	Explain different parameter passing techniques with an example.	L2	4	8
Or						
	b		Describe dynamic programming approach for code generation with examples.	L2	4	16
15.	a		Illustrate the principal sources of code optimization with examples.	L3	5	16
		Or				
	b		Illustrate the difference between local optimization and global optimization with suitable examples.	L3	5	16
