Regulation R18 *Subject code: 2P6EA & 2P6FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Supplementary Examinations, February 2024

COMPILER DESIGN

(Common to CSE & IT)

Maximum Marks: 70 Date:20.02.2024 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

	Part-A			
All the following questions carry equal marks (10x2M=20 Marks)			CO	Bloom Tx
1	What is input buffering?		CO1	L1
2	Define the following terms: a) Lexeme b) Token		CO1	L1
3	Differentiate between top down parsers		CO2	L2
4	Define Dead code elimination?		CO2	L1
5	What are the various types of intermediate code representation?		CO3	L2
6	Write a note on the specification of a simple type checker.		CO3	L1
7	Discuss about common sub expression elimination		CO4	L2
8	What is a Flow graph?		CO4	L1
9	Write a short note on copy Propagation		CO5	L1
10	What is machine independent code optimization?		CO5	L1
	Part-B			
Answer All the following questions. (5X10M=50Marks)				
11	Explain the various phases of a compiler with suitable example.	10	CO1	L2
	OR			
12	Construc an FA equivalent to the regular expression. 10+(0+11)0*1	10	CO1	L3
13	Construct CLR parse table for S->L=R/R R->L L->*R/id	10	CO2	L3
	OR			
14	State and explain the rules to compute first and follow functions. E->E+T/T T->T*F/F F->F*/a/b	10	CO2	L3
15	What is type checker? Explain the specification of a simple type checker.	10	CO3	L2
	OR			

16	Translate the following expression: (a + b) * (c + d) + (a + b + c) into a) Quadruples b) Triples	5+5	CO3	L3
17	Explain the following with an example: a) Redundant sub expression elimination b) Frequency reduction c) Copy propagation	4+3+3	CO4	L2
	OR			
18	Explain various method to handle peephole optimization.	10	CO4	L2
19	Give an example to show how DAG is used for register allocation.	10	CO5	L2
	OR			
20	Explain in detail about machine independent code optimization techniques with their drawbacks.	10	CO5	L2