R20 Regulation *Subject code:3P5FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, May 2025

COMPILER DESIGN

(IT)

Maximum Marks: 70 Date: 24.06.2025 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.
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)		Marks	CO	BTL
1	What is Context free grammar?	2M	1	L1
2	What are the differences between the NFA and DFA?	2M	1	L1
3	Mention types of LR parsers?	2M	2	L1
4	Define ambiguous grammar with an example?	2M	2	L1
5	Define about Syntax directed translation?	2M	3	L1
6	Mention about methods in intermediate code generation?	2M	3	L1
7	What is peephole optimization?	2M	4	L1
8	Define register descriptor and assignment descriptor.	2M	4	L1
9	Explain about code motion.	2M	5	L1
10	What are the types in loops of flow graphs?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain the various phases of a compiler in detail with an illustrative example.	10M	1	L2
	OR			
12	Discuss about the input buffering scheme in lexical analyser.	10M	1	L2
13	Discuss in about left recursion and left factoring with examples.	10M	2	L2
	OR			
14	Construct the predictive parser for the following grammar. S->(L)/a L->L,S/S	10M	2	L2
15	What is a three-address code? Mention its types. How would you implement the three address statements? Explain with examples.	10M	3	L2
	OR			
16	Explain about Type checking and Type Conversion with examples.	10M	3	L2
17	Explain about on basic blocks and flow graphs.	10M	4	L2
	OR			
18	What is an activation record? Explain how it is related with run time storage.	10M	4	L2
19	Explain about machine dependent and machine independent optimization.	10M	5	L2
	OR			
20	Write global common sub expression elimination algorithm with an example?	10M	5	L2