R20 Regulation *Subject code: 3P5FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, April 2026

COMPILER DESIGN

(IT)

Maximum Marks: 70 Date: 22.04.2026 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	Define Linker and Interpreter.	2M	1	L1
2	List the differences between token, pattern and lexeme.	2M	1	L1
3	What is Bottom up parsing method?	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	Define DAG.	2M	4	L1
8	Define back patching.	2M	4	L1
9	What is machine independent code optimization?	2M	5	L1
10	Define live variable and mention its advantages.	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	Define Regular expression. Explain the properties of Regular expressions.	10M	1	L2
13	Discuss in detail 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	Explain in brief about equivalence of type expressions with examples.	10M	3	L2
	OR			
16	Explain how to convert the following into intermediate code. (i) Assignments statements. (ii) Case statements.	5M 5M	3	L2
17	Explain about Trace based collection.	10M	4	L2
	OR			

18	Explain the peephole optimization in detail.	10M	4	L2
19	Explain the principal sources of optimization.	10M	5	L2
	OR			
20	Explain about data flow analysis.	10M	5	L2