



R18 Regulation

Subject code:2P6EA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, May 2025

COMPILER DESIGN

(CSE)

Maximum Marks: 70

Date: 20.06.2025

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 do you mean by a cross compiler?	2M	1	L1
2	What is the role of lexical analyzer?	2M	1	L1
3	What are the contents of activation record?	2M	2	L1
4	Write about types of LR parsers?	2M	2	L1
5	Why are quadruples preferred over triples in an optimizing compiler?	2M	3	L1
6	What are Abstract Syntax trees?	2M	3	L1
7	What is heap storage allocation?	2M	4	L1
8	What is common sub-expression elimination?	2M	4	L1
9	Write about Instruction Selection and Register allocation?	2M	5	L1
10	What is machine independent code optimization?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain the procedure to convert Regular Expression to DFA with an example.	10M	1	L2
OR				
12	Explain about LEX Tool with example.	10M	1	L2
13	Construct Predictive parsing for the following grammar S->(L) a L->L,S S	10M	2	L2
OR				
14	a) What are the common conflicts that can be encountered in shift reduce parsers? Explain.	5M	2	L2
	b) Construct FIRST and FOLLOW for the Grammar: E->E+T/T, T->T*F/F, F->(E)/id.	5M		
15	a) What is type system? Discuss static and dynamic checking of types.	5M	3	L2
	b) Define Intermediate code generator. Explain in brief about different Intermediate code generation.	5M		
OR				

16	Write down the translation scheme to generate three address code for assignment statements.	10M	3	L2
17	What is an activation record? Explain how it is related with run time storage organization	10M	4	L2
	OR			
18	Write Principle sources of optimization?	10M	4	L2
19	What is data flow analysis? Explain data flow analysis with examples.	10M	5	L2
	OR			
20	What is a Flow Graph? Explain how a given program can be converted in to aFlow graph.	10M	5	L2