



R18 Regulation

Subject code:2P6EA&2P6FC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, December 2024

COMPILER DESIGN

(Common to CSE & IT)

Maximum Marks: 70

Date:02.02.2025

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 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	Differentiate compiler and interpreter.	1	L1
2	What is the role of lexical analyzer.	1	L1
3	What are the contents of activation record.	2	L1
4	Define preprocessor.	2	L1
5	Define left most derivation.	3	L1
6	What are Abstract Syntax trees?	3	L1
7	Define address descriptor and register descriptor.	4	L1
8	What is common sub-expression elimination.	4	L1
9	What is machine independent code optimization.	5	L1
10	What are the induction variables?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Explain various phases of compiler with an example. [10M]	1	L2
OR			
12	Construct an FA equivalent to the regular expression. [10M] (0+1)(00+11)(0+1)	1	L2
13	Check whether the following grammar is SLR (1) or not explain your answer with reasons. [10M] S → L+R S → R L → * R L → id R → L	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: [5M] E->E+T/T, T->T*F/F, F->(E)/id.		
15	Explain the role of intermediate code generator in compilation process. [10M]	3	L2
	OR		
16	Write down the translation scheme to generate three address code for assignment statements. [10M]	3	L2
17	A) Justify the statement “Copy propagation Leads to Dead code”. [5M] B) Explain in brief about Stack Storage allocation strategy. [5M]	4	L2
	OR		
18	A) Explain brief about the issues in the design of code generator. [5M] B) Explain in detail about peep hole optimization. [5M]	4	L2
19	Explain the concept of loops in flow graphs in detail. [10M]	5	L2
	OR		
20	Explain about a) Constant Propagation b) Partial redundancy elimination. [5+5]M	5	L2