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, July 2024

Compiler Design
(Common to CSE & IT)

Maximum Marks: 70 Date:24.07.2024 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 do you mean by a cross compiler?	1	L1
2	What is the role of lexical analyzer?	1	L2
3	Define left most and right most derivations.	2	L2
4	List out types of LR parsers.	2	L2
5	What is coercion?	3	L2
6	Write the quadruple notation for the following expression $(x + y)*(y + z) + (x + y + z)$.	3	L2
7	Define loop optimization.	4	L1
8	What is common sub-expression elimination.	4	L2
9	Discuss about Instruction Selection and Register allocation.	5	L1
10	Define flow graph.	5	L1

Part-B

	Answer All the following questions. (5X10M=50Marks)		
11	Explain the procedure to convert Regular Expression to DFA with an example. [10]	1	L2
	OR		
12	Explain about LEX Tool with an example. [10]	1	L3
13	a) Discuss briefly about the classification of parsing techniques. [5] b) Eliminate left recursion in the following grammar. [5] $A \rightarrow ABd \mid Aa \mid a$ $B \rightarrow Be \mid b$	2	L3
	OR		
14	Construct Predictive parsing for the following grammar. [10] S->(L)|a L->L,S|S	2	L3
15	Write and explain SDT for simple calculator. [10]	3	L2

	OR		
16	Write down the translation scheme to generate three address code for assignment statements. [10]	3	L3
17	What is an activation record? Explain how it is related with run time storage organization. [10]	4	L2
	OR		
18	a) Differentiate between Static and Dynamic Storage allocation Strategies. [5] b) What is dangling Reference in storage allocation? Explain with an Example. [5]	4	L2
19	Write global common subexpression elimination algorithm with an example. [10]	5	L2
	OR		
20	Discuss the various peephole optimization techniques in detail. [10]	5	L2