Code No: R2032052 **R20** SET -1

III B. Tech II Semester Supplementary Examinations, December -2023
COMPILER DESIGN
(Computer Science and Engineering)

Time: 3 hours Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1.	a)	How to specify the tokens? Differentiate token, lexeme and pattern with suitable examples.	[7M]
	b)	Write the steps to convert Non-Deterministic Finite Automata (NDFA) into Deterministic Finite Automata (DFA).	[7M]
		(OR)	
2.	a)	Write about Phases of a compiler. Explain each with an Example.	[7M]
	b)	Give the general format of a LEX program.	[7M]

UNIT-II

3.	a)	What is an ambiguous grammar? Write a procedure to eliminate the same with an example.	[7M]
	b)	Given the following grammar: E -> E + E | E - E | E * E | E / E | - E | int Show two different *left-most* derivations with the help of parse trees for the string **int + int * int / int**. What does this infer?	[7M]
		(OR)	
4.	a)	Write an algorithm for constructing Predictive parsing table.	[7M]
	b)	Explain left recursion and left factoring with examples.	[7M]

UNIT-III

5.	a)	Explain Various types of LR Parsers.	[7M]
	b)	Explain in detail about the Error recovery in LR Parsing.	[7M]
		(OR)	
6.	a)	Differentiate LR and LL Parsers.	[7M]
	b)	What is Dangling Else ambiguity? Explain.	[7M]

UNIT-IV

7.	a)	Explain briefly about storage organization.	[7M]
	b)	Discuss briefly about Structure Preserving Transformations.	[7M]
		(OR)	
8.	a)	Describe in detail about Peephole Optimization.	[7M]
	b)	What is a flow graph? Explain with suitable example.	[7M]

UNIT-V

9.	a)	What are object code forms? Explain	[7M]
	b)	Explain about the Register Allocation and Assignment.	[7M]
		(OR)	
10.	a)	Explain the issues in the design of a code generator	[7M]
	b)	Explain the code generation Algorithm.	[7M]

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