Reg. No.												

Question Paper Code	12349

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Fifth Semester

Computer Science and Business Systems

20CBPC501 - COMPILER DESIGN

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

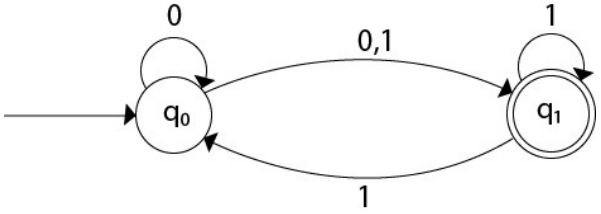
Answer ALL Questions

		Marks, K-Level, CO
1.	What is a Deterministic finite automata?	*2,K1,CO1*
2.	List out the types of language processing system.	*2,K1,CO1*
3.	Define Unambiguous grammar.	*2,K1,CO2*
4.	What are the difficulties with top - down parsing?	*2,K1,CO2*
5.	List out the purposes depending upon the language in hand using symbol table.	*2,K1,CO3*
6.	Define Activation tree.	*2,K1,CO3*
7.	Translate the arithmetic expression a*-(b+c) into syntax tree and postfix notation.	*2,K2,CO4*
8.	What is a Loader?	*2,K1,CO4*
9.	Compare Non Imperative with Imperative programming languages.	*2,K2,CO5*
10.	List out the types of loop optimizations for cache memory.	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Translate the given NFA to DFA *13,K2,CO1*



OR

b) Explain the process of scanner generator (Lex, Flex). *13,K2,CO1*

12. a) Illustrate the parse table for the given grammar using LL (1) parser. *13,K2,CO2*

S -> AaAb | BbBa

A -> €

B -> €

OR

b) Illustrate the LR(1) items for the grammar *13,K2,CO2*
S -> AA
A->Aa | b

13. a) Summarize the construction of syntax trees in the application of syntax directed translation. *13,K2,CO3*

OR

b) Explain SDT's for L – Attributed Definitions. *13,K2,CO3*

14. a) Explain various peephole optimization techniques. *13,K2,CO4*

OR

b) Compare the basic terminologies of data flow analysis in code improvement. *13,K2,CO4*

15. a) Explain the stages for target code generation. *15,K2,CO5*

OR

b) Illustrate loop optimization for cache memory with example. *15,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Construct Three Address Code for the following expression: *15,K3,CO4*
a := (-c * b) + (-c * d)

OR

b) Build the translation of source code to target code using various types of intermediate forms. *15,K3,CO4*