Register No. : ....

Name: ....

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(logo)	Adhiyamaan College of Engineering (Autonomous)	
	Question Paper	CSE
B. E. COMPUTER SCIENCE ENGINEERING		Branch: DEPARTMENT OF COMPUTER SCIENCE ENGINEERING
Semester: II-CSE-B		Academic Year: 2024-25
Course Code: 422CST06	L-T-P Credits: 3-0-0-3	Course Name: THEORY OF COMPUTATION
Time: 8.30-10.30 Hrs.	CIA-1	Date: 08.02.2025	Maximum Mark: 50

No.	Question	Mark	CO	BL

PART-A(5*2=10)

| No.	Question	Mark	CO	BL
1	Mention the differences between DFA and NDFA.	2.0	CO1	1
2	Draw a DFA which accepts the only input 101 over the input set:$Z=\{0,1\}$.	2.0	CO1	3
3	Prove that $\sqrt{2}$ is not rational.	2.0	CO1	4
4	Construct a NFA equivalent to $(0 + 1)00$	2.0	CO2	3
5	Compose the difference between the +Closure and *Closure.	2.0	CO2	1

PART-B(5*8=40)

No.	Question	Mark	CO	BL
6	Convert the following DFA from a given NFA. $M = (\{q_0, q_1\}, \{0, 1\}, \delta, q_0, \{q_1\})$ where δ is given by $\delta(q_0, 0) = \{q_0, q_1\}, \delta(q_0, 1) = \{q_1\}, \delta(q_1, 0) = \varphi, \delta(q_1, 1) = \{q_0, q_1\}$	8.0	CO1	2
7	Express the following NFA-ϵ to DFA.	8.0	CO1	3
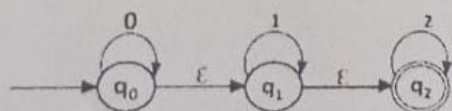
No.	Question	Mark	CO	BL
8	(i)Draw the NFA that accepts all strings that ends in 01. Give its transition table and the extended transition function for the input string 0101. (ii)Construct the DFA that accepts even no.of 0's and even no.of 1's.	8.0	CO1	3
9	Describe a NFA epsilon for the RE=(a/b)ab and convert it into DFA.	8.0	CO2	3
10	Minimize the following DFA using minimization	8.0	CO2	4

algorithm.
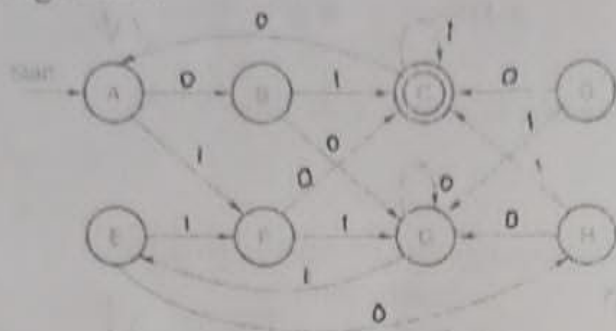
CO: Course Outcomes

- CO1: Construct automata, regular expression for any pattern
- CO2: Design grammars and Automata (recognizers) for different language classes.

BL: Blooms Taxonomy Level

6-Creating, 5-Evaluating, 4-Analyzing, 3-Applying, 2-Understanding, 1-Remembering,

Prepared by (Faculty in charge)	Verified by (DQAC member)	Approved by (HOD)
Vinothini T		