

Department of Computer Science and Engineering
CT-1

Course Code: CSU 502

Course Name: Theory of Computation

Marks: 15

Solve any three

- 1) Construct DFA to accept set of decimal numbers which are divisible by three 5M
- 2) Construct Moore machine over input 0 and 1 that emits output Y when current input matches with previous one and emit N otherwise 5M
- 3) Construct finite automata for regular expression $10 + (0+11)^*0^*1$ 5M
- 4) Construct DFA equivalent to NFA given below $M = (\{p, q, r, s\}, \{0, 1\}, \delta, p, \{s\})$ 5M

	0	1
p	q, s	q
q	r	q, r
r	s	p
s	-	p

Department of Computer Science & Engineering

Class Test: 1

Course Name and Code: Theory of Computation (CSU 502)

Class: Vth Semester

Time: 1 hour

Marks: 15

Solve any three

- . Construct finite automata that accept strings of 'a's and 'b's that begin and end with same symbol
- . Construct Moore machine, over input $\{0,1\}$, that emits output 'y' whenever current input matches with previous one and emits 'n' otherwise
- . Construct DFA for the language that is the set of all strings of 0's and 1's whose numbers of 0's and 1's are both even
- . Construct finite automata which accept number divisible by 3