Department of Computer Science

I Continuous Assessment– Jan 2023
Theory Of Computation (CS 315)

B.Tech VI Sem (CS)

Last date of submission : 22nd Jan 2023

Q1. "In the worst case, the smallest DFA can have 2^n (for a smallest NFA with n state). ". Justify the statement with the help of an example.

Q2. Why study Automata Theory? Briefly describe any two applications of FA.

Q3. Prove or disprove the following
i. (0+(01)* 0 + 0*(10)*)*= (0 + 10)*
ii. (r+s)*=r*+s*

Q4. Design a DFA which accepts set of all strings which are divisible by 7 for binary alphabet.

Q5. Explain the following algebraic laws for regular expressions:-
(i) Identities and Annihilators
(ii) Idempotent Law