Department: Computer Science & Engineering

Semester- V

Subject Name & Code: Formal Languages & Automata

(PCC-CSE 305 G)

Assignment- 1

Submission date: 24th Dec 2021

Q1.

a) Differentiate between NFA and DFA.

b) Differentiate between mealy and Moore machine.

c) Differentiate between strings and word of language using example.

d) Differentiate between kleene closure and positive closure.

Q2. Explain Chomsky classification of language.

Q3. Draw DFA for all strings over {0,1} consisting of even number of 0's and 1's.

Q4. Draw a finite automaton that accepts all binary strings where 0's and 1's are alternative.

Q5. State and prove pumping lemma theorem for regular language. Prove that

a) $L = \{a^n b^n \text{ for } n = 0,1,2,.....\}$ Is not regular.

b) $L = \{a^{2n} / n \geq 1\}$ is regular.

Q6. Find the regular expression corresponding each of following subset {0,1}

a) The language of all strings containing at least two 0's.

b) The language of all strings containing at most two 0's.