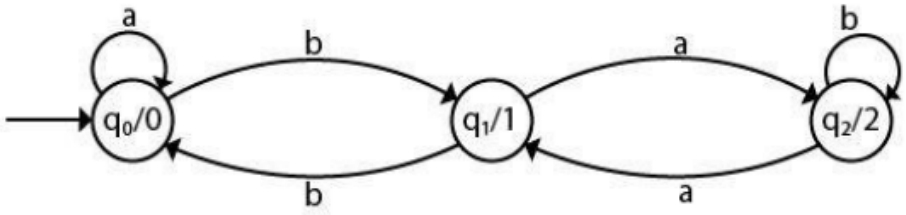
PYQ Unit 1

- 6marks

3-a.	Draw a DFA to accept string of 0's and 1's ending with the string 011. (CO1)		6
3-b.	What are various points of difference between Moore & Mealy Machine? Explain the procedure to convert a moore machine into Mealy machine. (CO1)		6
3-a.	Design Finite Automata that accepts set of strings containing exactly four 1's in every string over alphabet {0,1}. (CO1)		6
3-b.	Convert the given Moore machine into its equivalent Mealy machine. (CO1)		6

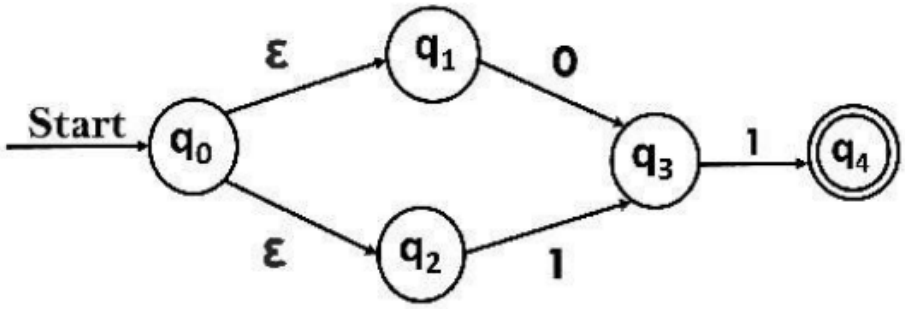


3	Construct a finite automaton (deterministic or nondeterministic) that recognizes the language over the alphabet {a, b, c} of all strings not containing the substring ba (CO1)	6
3	Construct a Mealy Machine that accepts all the strings ending in 01 and 11 over an alphabet $\Sigma = \{0, 1\}$. Convert the same to a Moore Machine. (CO1) Construct a Mealy Machine that accept string ending in 01 and 11. Convert the same to a Moore Machine.	6

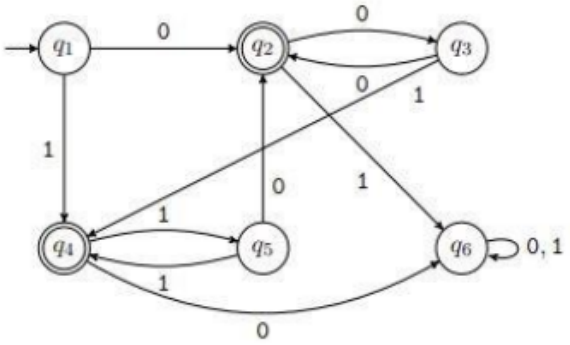
- 10Marks

4-a.	Explain Chomsky Classification of Grammars in detail. (CO1)	10
4-b.	Draw an NFA that accepts a language L over an input alphabet ∑ = {a, b} such that L is the set of all strings where 3rd symbol from the right end is **'b'**. Also convert the same to DFA. (CO1)	10

4-a. Convert epsilon-NFA to NFA without epsilon . (CO1) 10



4-b. For the following DFA, determine the classes of equivalent states, and use them to provide the equivalent minimum-state DFA. (CO1) 10



Draw an NFA that accepts a language L over an input alphabet ∑ = {a, b} such that L is the set of all strings where 3rd symbol from the right end is 'b'. Also convert the same to DFA. (CO1) 10

Convert the following NFA-ε into NFA without ε . (CO1) 10