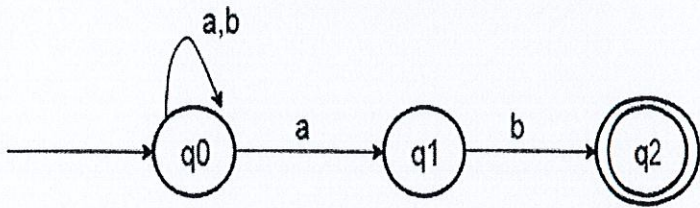


Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	Let $\Sigma = \{0,1\}$. Write Σ^2 and Σ^3 . Also give one example of a string belonging to Σ^* .	CO1	2
Q2	Convert the following NFA into an equivalent DFA: Show the transition table and the state diagram of the resulting DFA. Identify the start state and final state(s).  <pre> graph LR start(()) --> q0((q0)) q0 -- "a,b" --> q0 q0 -- "a" --> q1((q1)) q1 -- "b" --> q2(((q2))) </pre>	CO2	5
Q3	Write a regular expression for the language over $\Sigma=\{0,1\}$ consisting of all strings that start with 1 and end with 0 .	CO2	3
Q4	Draw a DFA for the language accepting strings ending with '01' over input alphabets $\Sigma = \{0, 1\}$	CO1	5

227