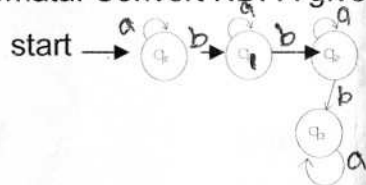
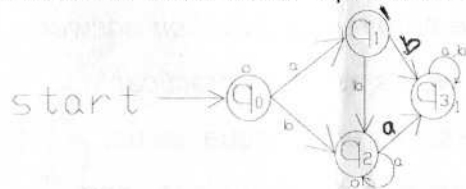


**Group 'B'**

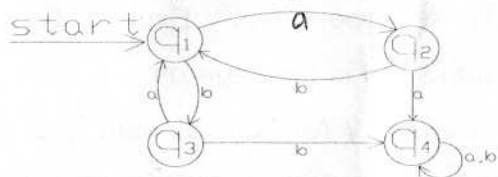
5. What is finite Automata? Describe the property of finite Automata. Convert N DFA given Transition diagram.



3. Describe the MOORE and MILEARY Machine and convert given MOORE Machine to equivalent MILEARY Machine.



7. Describe the Arden's theorem. Find the regular Expression for transition diagram is given below.



8. Describe the pumping Lemma/Theorem for regular Language, and prove that  $L=\{0^i1^j | i \geq j\}$  is not regular or regular.

9. (a) Give the C.F.G. for Generating an alternating sequence 10' S' and '1' S'.

(b) Design a context free grammar which can produce balanced parenthesis.

10. Prove that  $(1+00^*1) + (1 + 00^*1) (0+10^*1) * (0+10^*1) = 0^*1 (0 + 10^*1)^*$  by using Identities for regular expression.

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