FAST – NATIONAL UNIV. OF COMPUTERS & EMERGING SCIENCES
Islamabad Campus
CS-301 – Theory of Automata (Fall 2010)
Mid Term Exam (I)

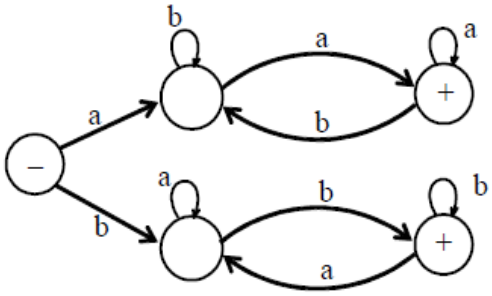
Date: 20 – 09 – 2010
Time allowed: 60 Minutes Total marks: 50

QNo1. Consider the language L of strings defined over Σ = {a, b}, in which every a is followed immediately by the string bb. (10)

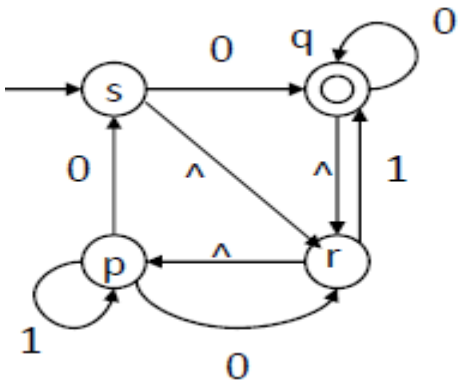
a. Draw a deterministic finite automaton that recognizes L.
b. Write a regular expression that describes L.

QNo2. Construct a NFA with 3 states that accepts the language L(r) where $r = (ab^*)^*+(ba^*)^*$. (10)

QNo3. Determine the language accepted by following FA, and write its regular expression. (10)



QNo4. Consider the following NFA. Convert it into equivalent FA. (10)



QNo5. Consider the following DFA. Apply state minimization process to convert it in equitant DFA with minimum number of states. (10)