Military College of Signals

CS Department

Automata Theory and Formal Languages

Spring 2011 **BESE 14**

Quiz 01 – DFA and NFA

Date: ***15th March, 2011***

Q 1: Create a DFA that accepts FOX and FOXTROT only.

Q 2: Create a NFA that accepts FOX and FOXTROT only. (*Hint: Choice at F, O or X)*

Q 3: Find a DFA for $L = \{ab^n, 0 \leq n \leq 2\}$

Q 4: For the transition table given in Table 1, create an appropriate NFA where $S = q_0$, and $q_1 \in F$.

Table 1: Transition table

	0	1	λ
q_0	q_1	q_1	-
q_1	q_2	q_0, q_1	q_2
q_2	q_1	-	-

Q 5: Identify a NFA for all strings that contain exactly two 'a' and followed by not more than two 'b'. This pattern maybe found anywhere in the whole string.