7

	0	1
→ {a, c}	{b, d}	{a, d}
{b, c}	{a, d}	{b, d}
{b, d}	{a, c}	{b, c}
* {a, d}	{b, c}	{a, c}

* $\delta(\{q_0, 10101\}) = \{a, d\}$

$\delta(\{a, c\}, 10101\} = \{a, d\}$

5-tuple :-

① start state = {a, c}

② Final state = {a, d}

③ Transition functions, δ ({a, c}, 0) = {b, d}; ({a, c}, 1) = {a, d}

({b, c}, 0) = {a, d}; ({b, c}, 1) = {b, d}

({b, d}, 0) = {a, c}; ({b, d}, 1) = {b, c}

({a, d}, 0) = {b, c}; ({a, d}, 0) = {a, c}

④ Stack

(2) 1 ε clousure = {1}

2 ε clousure = {2}

3 ε clousure = {1, 3, 7}

7 ε clousure = {1, 7}

5 ε clousure = {5}

2.5

	a	b
→ {1}	{1, 3, 7}	{2}
{2}	{}	{6} 7, 5}
{3}	{1, 3, 7}	{} {1, 3, 7}
{7}	{5}	{} 1, 7}
* {5}	{}	{}

	a	b
{1, 3, 7}	{1, 3, 7, 5}	{2}
* {1, 3, 7, 5}	{1, 3, 7, 5}	{2}
* {7, 5}	{5}	{}

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CSE331 Section 1

SET- B

Quiz-1

Name Fariha Nawaz ID: 153011821

Time: 30 minutes || Total marks: 13

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1. Design a DFA that accepts the strings in which the number of 0's is even and the length of the string is odd. Note that Σ = {0,1}. Give the DFA in transition diagram, transition table and 5-tuple form.
Find out the extended transition function, $\delta^*(q_0, 10101)$, where q_0 is the start state. [6+2]

2. Convert the following NFA to an equivalent DFA. [5]