

## National University of Computer and Emerging Sciences, Lahore Campus



Course:	Digital Logic Design Lab	Course Code:	EL227
Program:	BS (Computer Science)	Semester:	Spring 2018
Duration:	25	Total Marks:	10
Date	23-04-18	Weight	5%
Section:	D-2	Pages:	2

### Question # 1

**Design a one-input, one-output serial 2's complemener. The circuit accepts a string of bits from the input and generates the 2's complement at the output. The circuit can be reset asynchronously to start and end the operation.**

- Construct the state table that consists of the present state, inputs and next state.
- Derive the next state equation/equations. Also show the simplification.
- Draw the logic diagram of sequential circuit.
- Draw the corresponding state diagram.