**ECE 329**

**Digital Circuit Design II + Lab.**

**Fall 2018/2019**

**LAB # 7**

**19.11.2018**

**Objective:**

To learn about serial adders and 4-bit operations.

1. **Understanding the Serial Adder Working Principle**
2. **Designing 4-bit adder and subtractor**
3. **Design the circuit of Figure 1 on ORCAD and accomplish the following tasks.**

**Procedure:**

1. Arrange two different digstim inputs for shift registers.
2. Simulate your design on Orcad.
3. Verify your results.
4. Explain how this circuit works by your words.
5. **Design a 4-bit adder and 4-bit subtractor on ORCAD by using the element ADD1.**

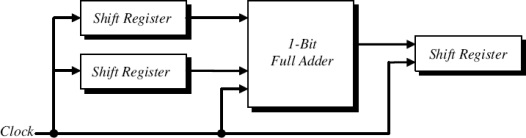
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FIGURE -1