**CME1214 Logic Design**

**Experiment 2**

**Preliminary Work**

1. Examine function F and
2. Draw the truth table of F and then simplify F using Karnaugh map.
3. Use Quartus to implement logic design of F.
4. Simulate your circuit and verify that it works correctly using the waveform.
5. Design a **half adder** circuit using logic gates and then design **2-bits full adder** using half adder circuit(s).

* Give the truth tables and Karnaugh maps of the designs.
* Use Quartus to implement your designs.
* Simulate your circuits and verify that they work correctly using the waveform.

The preliminary work and report are expected from each student **individually**.

**Equipments**

* AND (IC 7408), OR (IC 7432), NOT (IC 7414), XOR (IC 7486)
* Breadboard
* Connection cables
* Any other equipments necessary for the experiments.

**Lab Work**

1. Simplify the Boolean function F and implement it by using integrated circuits(IC).
2. Implement half adder and 2-bits full adder circuits by using ICs.