# CME1214 Logic Design Experiment 3

1. The following function is given. Implement it using a 3x8 multiplexer.

F (A, B, C, D) = ∏ (0, 2, 5, 9, 11, 14

d (don’t care) (A, B, C, D) = ∑ (3, 8, 10, 15)

1. Design a circuit that displays the prime and non-prime integers between 0-7. Use a 3x8 Demultiplexer(DEMUX) and 2-input AND gates to implement the design.

F1(A, B, C) = ∑ (0, 1, 4, 6)

F2(A, B, C) = ∑ (2, 3, 5, 7)

**Preliminary Work**

Draw truth tables, Karnaugh maps, logic diagrams and waveforms of the design.

# Equipments

* 74LS151 (Multiplexer), 74LS138 (DeMultiplexer) and other necessary ICs such as Inverter, OR, AND
* Breadboard
* Connection cables