CSE 3203 CT2 - 20 Marks - 35 Minutes

Most Important Instructions: -2 will be awarded to those who will submit blank answer scripts.

1. Design an 2-bit ALU that supports the following 2 operations: ADD and SUB. Provide detailed implementation of each chip used in the design (at least Boolean equation). 15

2. Suppose you have been given the following chip with internal schematics: 5

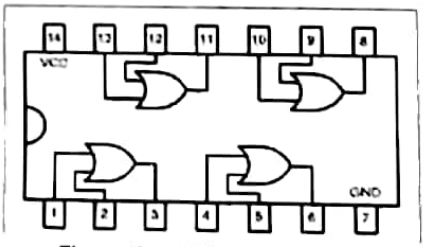

Figure: Quad 2-input OR gate

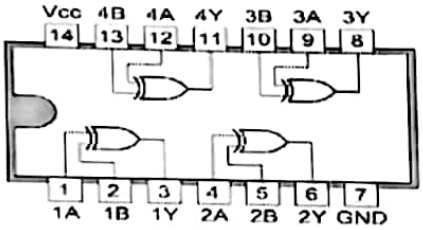

Figure: Quad 2-input XOR gate (7486)

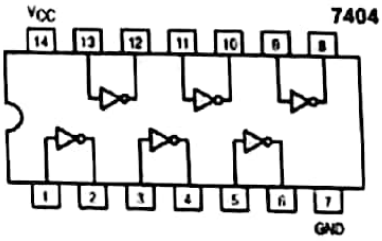

Figure: Hex NOT gate (7400)

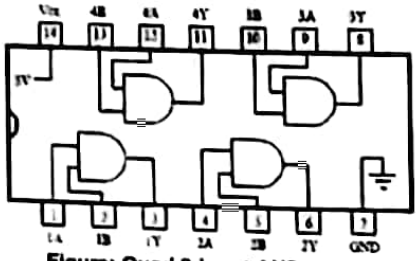

Figure: Quad 2-input AND gate

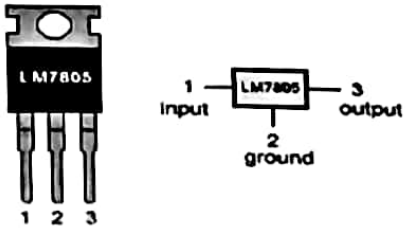

Figure: 7805 IC (Voltage Regulator)

You have a 9V power supply.
You can use the above chips any number of times.

Draw schematics of a 2-bit ALU that supports ADD and SUB operations using all chips mentioned above.