四川大学平时测验试题

学号：_____姓名：_____

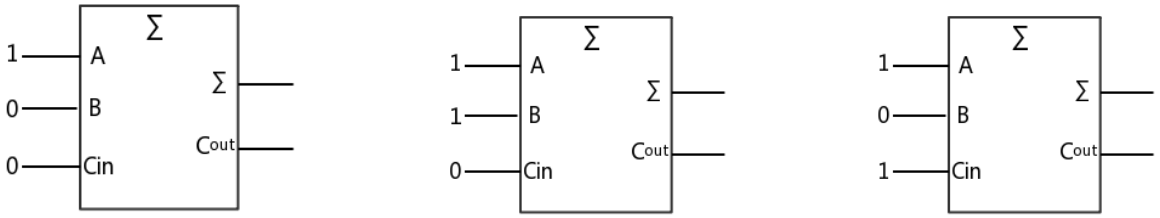
1. The inputs to a full adder are A=1, B=0, Cin=1, The outputs are ∑=_____, Cout=_____

2. Write the truth table for a 1-bit full-adder, and draw the circuits.

3. Develop a logic circuit for detecting whether a 8421BCD code is a multiple of three. If it is, the output should be true. (a) construct the truth table; (b) write the logic expression and simplify it; (c) draw the logic circuit.

4. if a octal-to-binary priority encoder has its 0, 2, 5, and 6 inputs at the active level, the active-HIGH binary output is ( ) (a) 110 (b) 010 (c) 101 (d) 000

5. For each of the three full-adders in Figure, determine the outputs for the inputs show.



(a) The input bits are A=1, B=0, and Cin=0. (b) The input bits are A=1, B=1, and Cin=0.
(c) The input bits are A=1, B=0, and Cin=1.

6.You wish to detect only the presence of the codes 1010, 1100, 0001, and 1011. An activeHIGH output is required to indicate their presence. Develop the minimum decoding logic with a single output that will indicate when any one of these codes is on the inputs. For any other code, the output must be LOW.

7. Realize the logic function with the given chips. F(A,B,C,D)=BC'+A'C+AD.

(1) 3-8 decoder (2) 8-1 multiplexer (3) 4-16 decoder