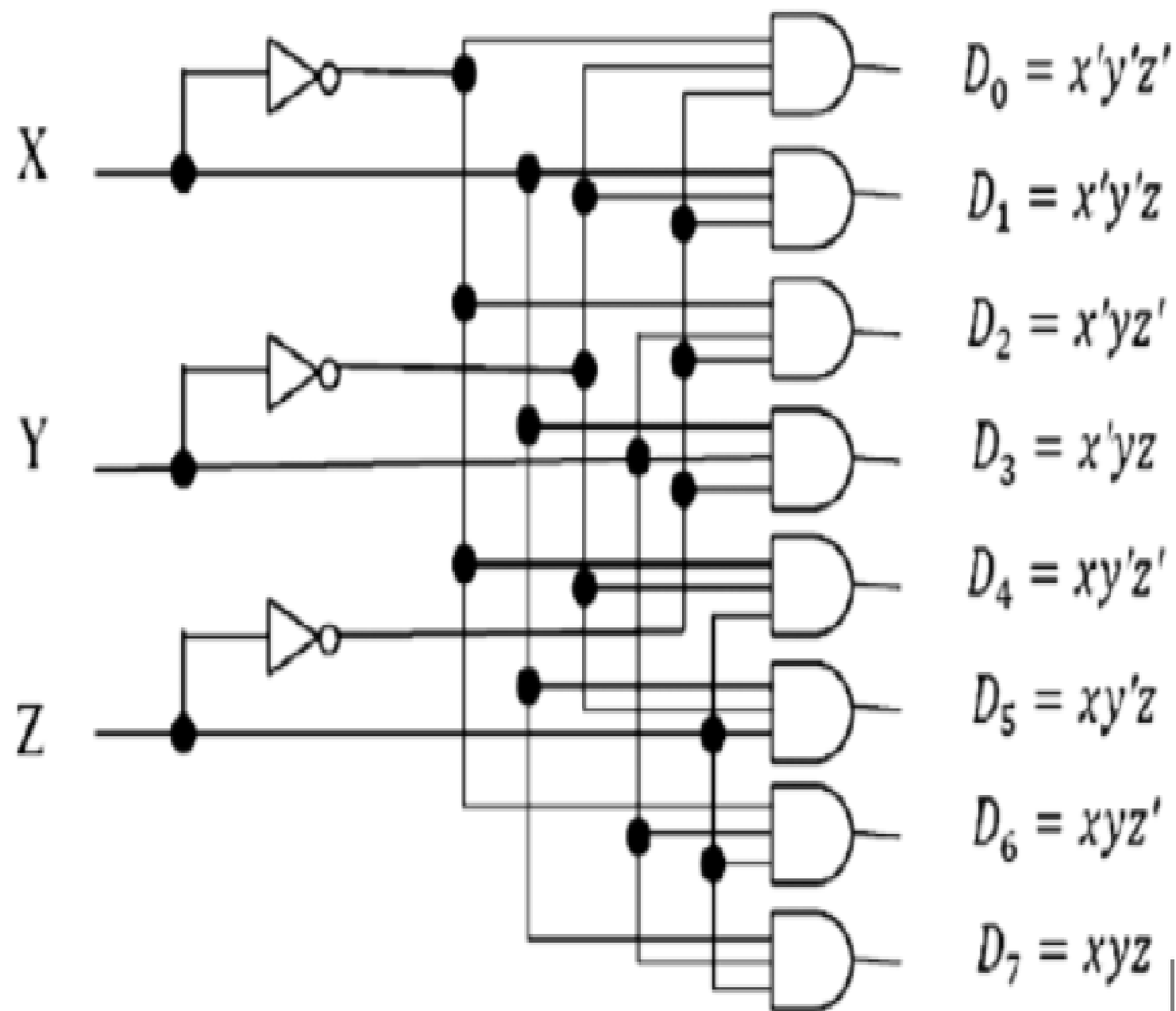
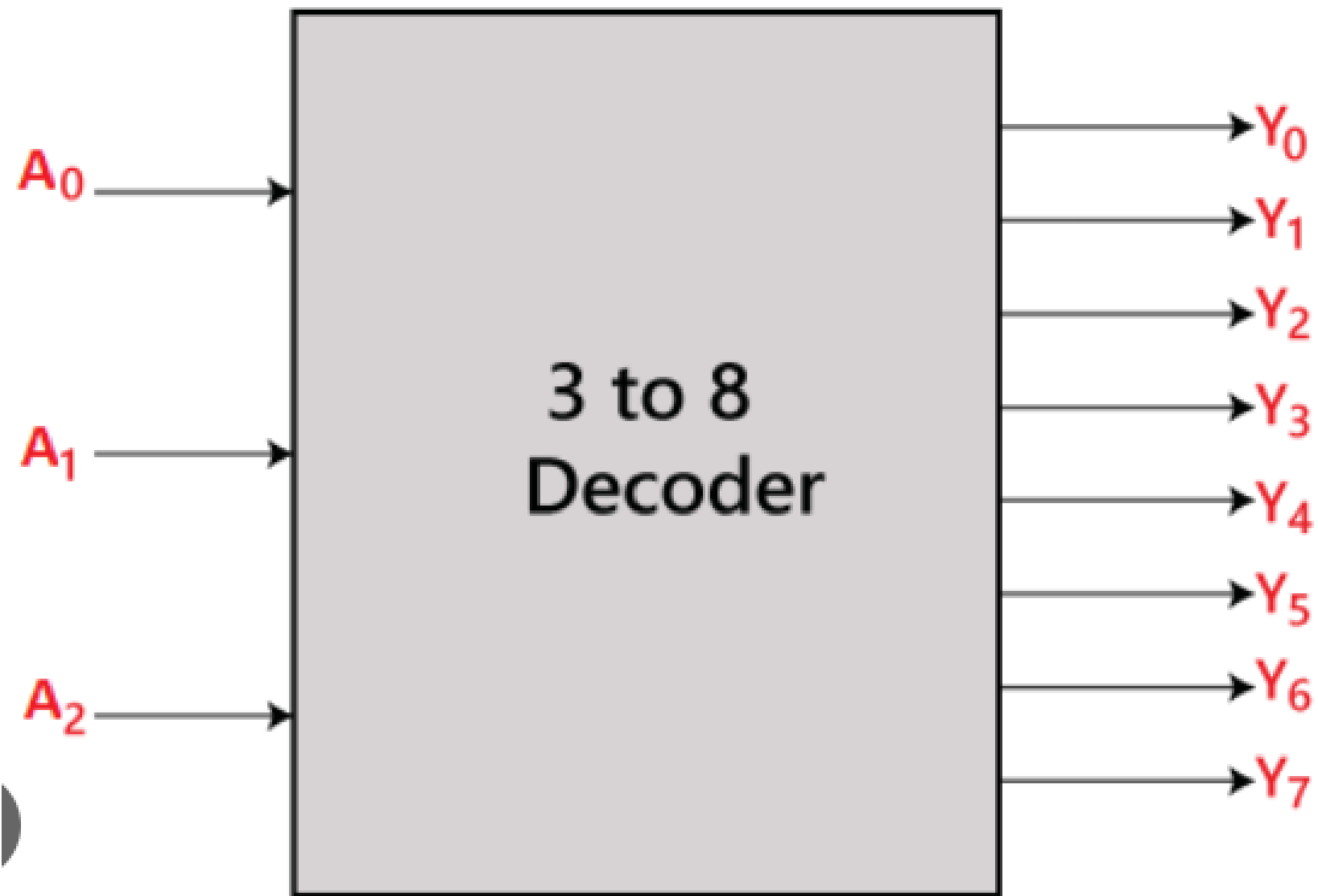


1.Design and construct a 3 to 8 decoder circuit using “AND” and “NAND” gates with its truth table and block diagram.



3 to 8 Line Decoder

Inputs			Outputs							
x	y	z	D0	D1	D2	D3	D4	D5	D6	D7
0	0	0	1	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	0	0	0
0	1	0	0	0	1	0	0	0	0	0
0	1	1	0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	0	1	0	0
1	1	0	0	0	0	0	0	0	1	0
1	1	1	0	0	0	0	0	0	0	1



2. Design a four-input gate combinational network that converts the decimal digits in 2421 code into their equivalent forms of 8421 code. Treat each output independently.
3. Using a 4 bit binary adder, design a network to convert a decimal digit in 8421 code into a decimal digit in excess-3 code.
4. Using a 4-bit binary adder, design a network to convert a decimal digit in excess-3 code into a decimal digit in 8421 code.
5. Design a specialized comparator for determining if two n-bit numbers are equal. To do this, design the necessary 1-bit comparator that can be cascaded to achieve this task.