L8 prac problems

E3 BCD

0011 0000

0100 0001

0101 0010

0110 0011

0111 0100

1000 0101

1001 0110

1010 0111

1011 1000

1100 1001

Let input be ABCD

1st output

X CD

00 01 11 10

AB 00 x x 0 x

01 0 0 0 0

11 1 x x x

10 0 0 1 0

Output = AB+ACD

2nd output

X CD

00 01 11 10

AB 00 x x 0 x

01 0 0 1 0

11 0 x x x

10 1 1 0 1

Output = B’C’+BCD+B’D’

3RD output

X CD

00 01 11 10

AB 00 x x 0 x

01 0 1 0 1

11 0 x x x

10 0 1 0 1

Output = C’D+CD’

4st output

X CD

00 01 11 10

AB 00 x x 0 x

01 1 0 0 1

11 1 x x x

10 1 0 1 1

Output = D’

Q2

X A1A0

00 01 11 10

A3 00 0 0 1 0

A2 01 1 1 1 1

11 0 0 0 0

10 0 0 0 0

Output = A3’A2 +A3’A1A0

Q3

X A1A0

00 01 11 10

S 0 0 1 1 0

1 0 0 1 1

Output = S’A0+SA1

Q4

EN is added to the circuit using an AND gate

EN(S’A0+SA1)