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Due Oct 29th

EE 451

HW #~~10~~ 9

5.2

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a)
$$\begin{array}{r} 0001 \\ 0100 \\ \hline 0101 \end{array}$$

b)
$$\begin{array}{r} 1111 \\ 0010 \\ \hline 0001 \\ \quad\;\; 1 \\ \hline 0010 \end{array}$$

c)
$$\begin{array}{r} 0011 \\ 1010 \\ \hline 1101 \end{array}$$

d)
$$\begin{array}{r} 1011 \\ 1010 \\ \hline 0101 \\ \quad\;\; 1 \\ \hline 0110 \end{array}$$

5.3

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a)
$$\begin{array}{r} 0001 \\ 0100 \\ \hline 0101 \end{array}$$

b)
$$\begin{array}{r} 1111 \\ 0010 \\ \hline 1\,0001 \end{array}$$

c)
$$\begin{array}{r} 0011 \\ 1010 \\ \hline 1101 \end{array}$$

d)
$$\begin{array}{r} 1011 \\ 1010 \\ \hline 1\,0101 \end{array}$$

~~5.4~~ 5.5

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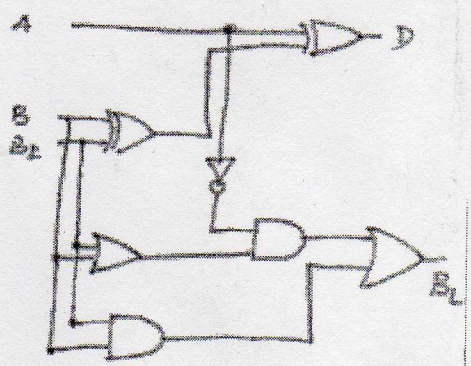
a)

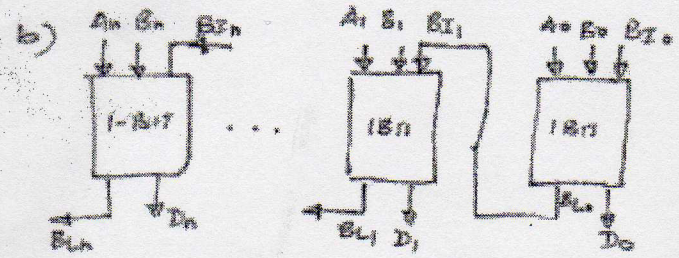
A	B	B_I	D	B_L
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	1
1	0	0	1	0
1	0	1	0	0
1	1	0	0	0
1	1	1	1	1

$$D = A \oplus B \oplus B_I$$

$$B_L = B \cdot B_I + \bar{A}(B + B_I)$$



b)



c) (Yes), negatives 2's complement subtraction can be performed

d) Underflow is indicated when $B_{Ln} = 1$.