9.0

CpE 111- HW#6
5.14, 5.17, 6.1(b), 6.2(b), 6.3(b)

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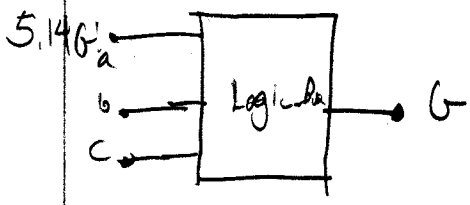
10/13/99

$\Sigma H = 57.0$

$\Sigma M = 143.0$

5.14 

table

```
entity logic_box is
    port(a,b,c : in bit;
         G : out bit);
end logic_box;

architecture dataflow of logic_box is
begin G <= '0' when a='0' and b='0' and c='0' else
           '0' when a='0' and b='1' and c='1' else
           '1';
end dataflow;
```

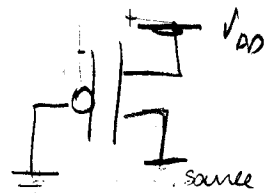
5.17
```
entity problem_5_17 is
    port ( A, B: in bit_vector ( 3 downto 0 );
           compare: out bit);
end problem_5_17;

architecture dataflow of problem_5_17 is
begin
    compare <= '1' when A(3) = B(3) else
               '1' when A(2) = not B(2) else
               '1' when A(1) = B(1) else
               '1' when A(0) = not B(0) else
               '0';
end dataflow;
```

V_{DD}
0

6.1 b)

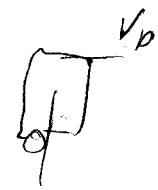
$V_{GS} = V_{DD}$ ON

6.2 b)

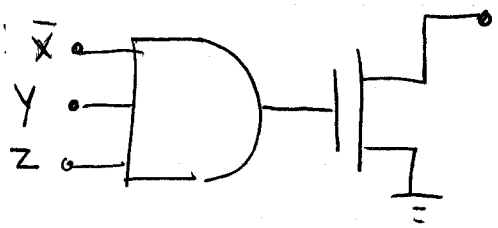


$V_{SG} = 0$

OFF



6.3 b) G: $\bar{x}$, y, z



x	y	z	$\bar{x}$	$\bar{x}yz$
0	0	0	1	0
0	0	1	1	0
0	1	0	1	0
0	1	1	1	1
1	0	0	0	0
1	0	1	0	0
1	1	0	0	0
1	1	1	0	0

$x = 0;\ y = 1;\ z = 1$