Sheet 1

1. Please draw the minimum CMOS transistor network that implements the functionality of Boolean equation F= ((A+B) C + D)'. You can assume both the original and complemented versions of each literal are available as gate inputs.

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2. Please draw the minimum CMOS transistor network that implements the functionality of Boolean equation F= (A (B C + D))'. You can assume both the original and complemented versions of each literal are available as gate inputs.

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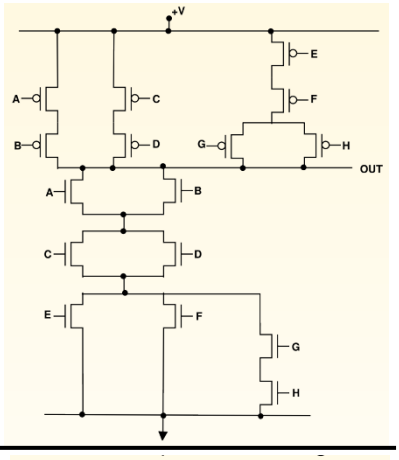
3. find output expression for the following CMOS transistor network?



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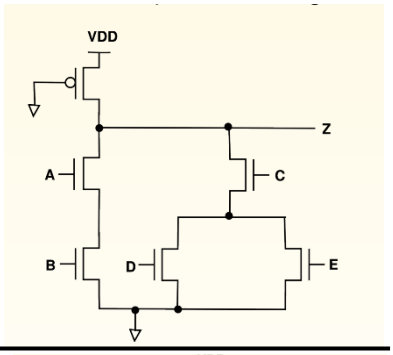
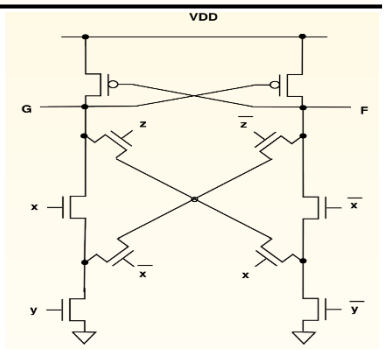
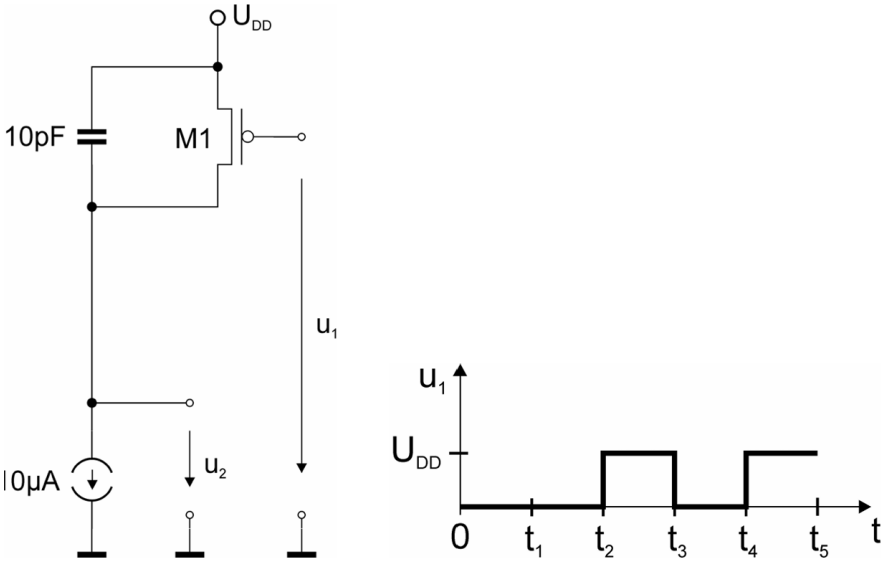
4. Find output expression for the following CMOS transistor network?



5- Find output expression for the following CMOS transistor network?



6- The circuit in Figure with UDD=5 V and the time course $u_1(t)$ in Figure 4.2 with t_1=2µs are given. Draw the time course $u_2(t)$ in the area t1>t>t5! Note: The resistance of a conducting transistor is negligible



7- For the following circuit, Sketch the output waveform as function of input waveform.