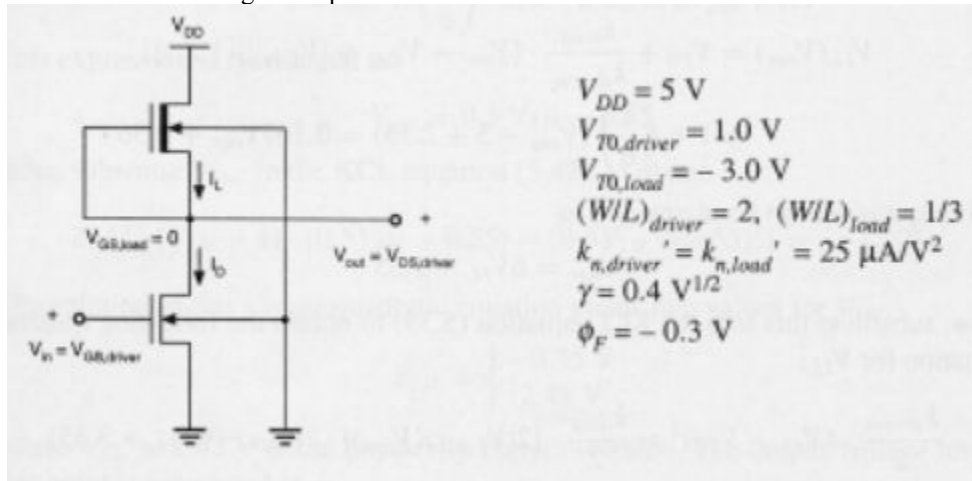


1. a. Explain the VLSI Design flow briefly . (10)
 b. Explain ASIC in brief.
2. Consider the following inverter design problem given: $V_{dd}=5V$, $k_n'=30\mu A/V^2$ and $V_{TO}=1V$, design a resistive load inverter circuit with $V_{OL}=0.2V$, also determine W/L ratio of the driver transistor and the value of the load resistor RL that achieve the required V_{OL} . (5)

Or

4. The following is a depletion-load inverter circuit: $V_{OH}=V_{DD}=5V$. Calculate V_{OL} and $V_{T,load}$.



5. Design six transistors XOR gate using CMOS transmission gate. (5)
 Or
6. Design J-K flip flop with CMOS logics.
7. Explain the Domino logic and also discuss its limitations. (5)
8. Design layout and stick diagram of CMOS NOR gate. (5)