

### Exercise 1

1. Design a CMOS inverter whose  $\mu_n C_{ox} = 350 \mu\text{A}/\text{V}^2$ ,  $\mu_p C_{ox} = 70 \mu\text{A}/\text{V}^2$  and midpoint voltage ( $V_{th}$ ) is 0.8 V. Also determine the noise margin values. (Use threshold voltage values obtained from experiment 1)
2. Compare the noise margin obtained in (1) to that of the noise margin of a symmetric CMOS inverter, and comment on your observations.