**Homework Assignment No. 4**

Due Wednesday, February 5, 2003 in class

**Problem 1 – (10 points)**
Find the midband voltage gain and the exact value of the two poles of the voltage transfer function for the circuit shown. Assume that $R_I = 1\, k\Omega$, $R_L = 10K\Omega$, $g_m = 1mS$, $C_{gs} = 5pF$ and $C_{gd} = 1pF$. Ignore $r_{ds}$.

![Circuit Diagram]

**Problem 2 - (10 points)**
Prob. 7.11 of 3rd and 7.21 of 4th edition

**Problem 3 - (10 points)**
Prob. 7.15 of 3rd and 7.27 of 4th edition

**Problem 4 - (10 points)**
Prob. 7.21 of 3rd and 7.37 of 4th edition

**Problem 5 - (10 points)**
Prob. 7.22 of 3rd and 7.38 of 4th edition