International Institute of Information Technology, Hyderabad

CVEST

Introduction to VLSI (ECE361), Spring 2013

Assignment-1

Due: Thurs., 10-1-2013

Problem-1

Study the variation in threshold voltage of both NMOS and PMOS with respect to change in bulk potential.

Problem-2

Study the MOSFET (NMOS and PMOS) as a resistor and the variation of the resistance with respect to

1. Terminal voltages
2. Aspect ratio $\frac{W}{L}$

Tools and Technology

You can use TANNER tool for the simulations and 90nm MOS library models.

Deliverables

A pdf document containing

1. A brief write up on the theoretical analysis of the problem.
2. Circuit schematics and SPICE results (graphs) along with your observations on the results.