Name:

Registration Number:

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| 1. | Consider an pMOS transistor in a 65 nm process with a minimum drawn channel length of 50 nm. Let W/L be a constant. In this process, the gate oxide thickness is tox Å. Estimate the high-field mobility of electrons to be m cm2/V· s at 70 ºC. Vgs = 0.5V and 2V using the long-channel model. The threshold voltage is 1V. |  | CO? |
|  | If Geometry and Technology dependent parameter is equal to your registration number, Plot **Ids vs ­Vds**. | 5+5 |  |
| 2. | Explain the regions in your graphs in Question 1. Explain what happens as you increases voltage in the MOS. | 5+5 | CO? |