Assignment #10: Due: 12/1/2011

1) Read Chapter 3 from Jaeger

2) Do problems 3.2, 3.3, 3.6, 3.9, 3.11, 3.15

3)
(a) You want to grow a 100 nm thick oxide in dry oxygen at 1000°C. Assuming the native oxide layer has been removed immediately before deposition, how long will the oxidation process take? Is the process in the linear or parabolic regime or none of the two?

(b) In this step the 100 nm thick oxide is re-grown in two steps. Initially, a first layer is grown to a thickness of 50 nm and then the wafers are re-oxidized to a total thickness of 100 nm. If the conditions are identical as in (a) for both steps, what is the time for both oxidations?

4) Last two group activity homework.