S-18.2103 POWER SYSTEMS

Exam 12.1.2010, at 9-12, S4

1. Explain how voltage, current and impedance are referred over a power transformer.
2. Explain the equal area criterion in the analysis of dynamic stability.
3. The spacing of a 20 kV line conductors is 1,1 meters in horizontal plane. The conductor radius is 7 mm. Calculate the reactance per km.
4. Explain the natural load of a transmission line and its relation to the voltage control.
5. Give the symmetrical component model for single phase to earth faults. Explain the behavior of the circuit in a) unearthed system, b) compensated neutral system.

Please answer to all the five questions !.