RECITATION 06

Exercise 01

A 11kv, 30MVA generator has $x_1=x_2=0.2$pu and $x_0=0.05$pu. a line to ground fault occurs on the generator terminal. Find the fault current and line to line voltages during fault conditions. Assume that the generator neutral is solidly grounded.

Exercise 02:

The single line diagram is drawn in figure 1. Before the occurrence of a solid L-G fault at line g the motors were loaded. If the prefault current is neglected, calculate the fault current and sub transient currents in all parts of the system.

Figure 1: Single-line diagram the system

Exercise 03:

Two 11kv, 12 MVA, 3 ph, star connected generators operate in parallel figure 2. The positive, negative and zero sequence reactance of each being j 0.09, j0.05 and j0.04 pu respectively. A single line to ground fault occurs at the terminals of one the generators.:

1. Dreaw the positive, negative and zero sequences
2. Estimate The fault current
3. Estimate Current in grounding resistor
4. Estimate Voltage across grounding resistor

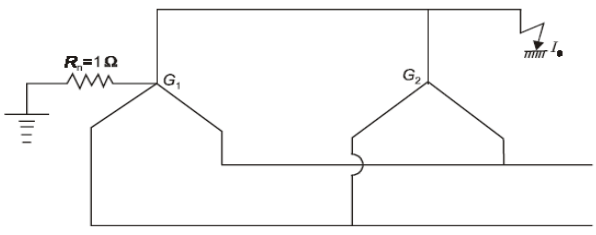

Figure 2: Circuit connection of two generators