

Transmission and Distribution of Energy - Schedule

Week	Theory	Computer laboratory
1	Basic concepts	Solving a line
2	Voltages in a short line / Line models	Power system data
3	The admittance matrix / Conductors	Building the admittance matrix
4	The load flow problem / Overvoltages	Load flow problem
5	The Newton-Raphson method / Insulators	Programming a Newton-Raphson method
6	Modified Newton–Raphson methods / Overhead lines	Programming a fixed-slope and a decoupled method
7	Power dispatch / Shunt capacitors and coils	Power dispatch
8	Voltage control / Tap changers	Voltage control
9	Voltage stability / Oil insulated transformers	Voltage stability
10	DC load flow / Switching devices	Programming a DC load flow
11	N-1 criterion / Circuit breakers	Applying the N-1 criterium
12	Contingency analysis / Protective devices	Contingency analysis
13	3-phase short circuits / Substations	Programming a short-circuit analysis
14	Short circuit power / Switch yards	Short-circuit analysis