

ELEC-E8413 POWER SYSTEMS

EXAM 4.2.2019

1. In a low voltage network (line voltage 400 V, phase voltage 230 V) there is a three-phase load having phase current of 10 A in each phase. The current is lagging the phase voltage by 25 degrees. Calculate a) real power, b) reactive power, c) apparent power transmitted. d) What is the power factor?
2. Explain load modeling using type users load curves.
3. Explain the control of real power in power systems. How does the frequency behave in a case of sudden generation deficiency.
4. Overvoltage protection of power transmission lines.
5. Explain the touch voltages and the regulations concerning their limitation.

Answers accepted in English, Finnish and Swedish.

Questions are available only in English.