

You can answer in English or in Finnish

1. Define shortly the following terms or concepts (1.5 p/each)
 - a) DMS
 - b) HEMS
 - c) V2H
 - d) DER

2. a) Draw the main diagram of a nationwide power system to explain which kind of voltage levels there exist in a power system from big power plants to small household level customers. (3p)

b) Explain briefly what does “N-1 criterium” means in planning of transmission networks. (3p)

3. Why low voltage (LV) networks have a significant role in future Smart Grids (4p)

4. List the main benefits which can be achieved by “Demand Response” (4p)

5. Describe briefly basic principles of pricing electricity of small household level customer by a retailer and a DSO. (4p)