**ELEC-E8413 Power Systems**

**Exam 31.1.2022**

Write your answers in this same file. Then convert your answer file to a pdf format and submit it in return box of MyCourses. This is an open book exam, i.e. use of materials is permitted.

Answers are allowed in English, Finnish and Swedish.

Name of the student:

Student number:

QUESTIONS

Q1: A three phase resistive load is connected in delta. The power of the load is 10 kW. What would the power be if the load is connected in star?

Q2: Explain the use of equal area criterion in assessing the transient stability. Describe how the power angle of a generator behaves after the reconnection of the power plant.

Q3: Explain the reactive power balance of a power transmission line. What is the natural load of the power line?

Q4: Explain the different factors of current rating of power system components.

Q5: Electrical safety: describe the dangerous situations related to the power systems.