

Ene-39.4006 New Energy Production Processes
Examination Tuesday 18.12.2012 time: 13.00-17.00

1. Classify the existing wave energy technologies and describe different types of wave energy devices. What are the advantages of wave roller device? How can wave energy be used in producing fresh water?
2. In most of energy fields, researchers talk about smart grids. What is the role of smart grid and what are the driving forces of smart grids? What are the smart grid challenges and solutions? Explain how to use smart grids in windmills
3. Draw a schematic diagram of a domestic solar thermal system. What are the main solar energy technologies? Mention different technologies for energy storage. What are the chemical properties and physical properties of nano materials? What are quantum dots and their applications?
4. What are Biogas, Biomethane, Bio syngas and Bio-SNG? What are the processes required to produce Bio-SNG from biomass? What are the chemical reactions required for methanation? What are the differences between LNG and CNG?