

**Questions**  
**„Electrical Lighting and Heating Technology (ELST) - part Heating“**

1. Basic terms of heating (heat, specific heat, flux heat). Heat transfer by conduction.
2. Laws of thermodynamics. Heat transfer by convection.
3. Heat transfer by radiation.
4. Analogy between temperature and electric fields.
5. Temperature measurement. Temperature scales. International temperature scale ITS-90.
6. Thermometers - metal, semiconductor, thermistors, resistance temperature detector. Range and accuracy.
7. Thermocouples - Seebeck effect, types, accuracy and range. Measurement circuit.
8. Non-Contact devices. Advantages and disadvantages.
9. Infrared systems, thermovision. Infrared detectors.
10. Thermal comfort. Thermal state of environment.
11. Heat losses/gain calculation.
12. Air conditioning - principles.
13. Type of air conditioning.
14. Heat pump, cooling cycle.
15. District cooling systems, types
16. Savings on energy in house.