

Questions
„Power Energy Generation and Utilization“
part „Heating and Lighting (Utilization)“

1. Basic terms of heating:
 - heat, specific heat, flux heat, temperature, temperature field, thermal conductivity
 - thermal system, steady and unsteady flow
 - laws of thermodynamics
2. Heat transfer:
 - heat conduction - Fourier's law, composite wall, thermal resistance
 - heat convection - Newton's law. Natural and forced convection
 - heat radiation - emissivity
3. Resistance heating:
 - direct resistance heating
 - indirect resistance heating
 - resistance furnaces
 - heating elements, temperature regulation
4. Arc heating (electric arc furnaces - EAF):
 - type of electrical arc
 - EAF power classification
 - energy balance in EAF
5. Induction heating:
 - principle of heating
 - skin effect, penetration depth
6. Basic terms of lighting:
 - luminous intensity (cd), luminous flux (lm), luminous level, illuminance (lux), luminous efficacy (lm/W)
 - colour temperature, colour rendering index
7. Lamps
 - incandescent lamps,
 - fluorescent lamp
 - sodium lamps (low-pressure and high-pressure)
 - LED lamp
8. Luminaries:
 - parts
 - luminaries type