

Summarizing questions for Final exam on Engineering Thermodynamics

1. Concept and general structure of Thermodynamic system. Main laws of thermodynamics. Roles of the thermodynamic and caloric properties in the engineering thermodynamics
2. Thermodynamic properties of gas mixtures. State changes of ideal gases.
3. Description and explanation of Entropy diagrams. Change of heat to mechanical energy during arbitrary cycle.
4. Concept of Carnot cycle. Comparison of the reversible and the irreversible Carnot cycles.
5. Description of ideal technical cycles for internal combustion engines
6. Description of ideal technical cycles for external combustion engines (gas machines)
7. Concept and structure of steam charts that are used in engineering practice. State changes of steam.
8. Principles of heat conductivity and heat radiation.
9. Heat radiation of gases and steams
10. The principle of similarity method
11. Classification and thermodynamic description of surface heat exchangers.
12. Basic properties of humid air.
13. Concepts and structures of different psychometric charts.
14. Thermodynamic process of convective drying and air conditioning
15. Theory of steam piston coolers