Final control questions from the science of energy technology

1. The term "chemical-energy technology".

Technology, product, energy, energy resource, Chemical energy technology, product quality, optimal criteria, metal consumption reduction, Chemical reaction energy, Chemical and spatial balance.

2. Reversible and irreversible processes

Q 1 and Q 2 , temperature, driving force, distillate, "quasi-static" or reversible process, secondary heat, heat generator, real conditions, heat, system, "utility", "need", "potential", performance, vacuum, "high potential"

3. Gibbs energy.

reaction, reduction of Gibbs energy, reaction, reaction, maximum useful work, A=- ΔG, amount of mechanical or electrical energy, free energy, reaction temperature, Chemical reaction, van't Hoff cell, electrical energy, real conditions, Chemical reactions, techniques , generic, , ΔG=- ΣG last + ΣG start. ≥0 Δis the G value.

4 . Exergetic Method of Thermodynamic Analysis . Basic Rules

exergy analysis of the technical process, anergy, relative efficiency, relative productivity of hot water, relative productivity of steam, specified costs, relative productivity, influence of pressure and temperature on exergy, energy calculation method.

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6 . Energy balance.

Basic laws of thermodynamics, technological process, evaporation, evaporation energy flows, - added heat, - removed heat of vapors, - heat transfer to the environment, apparatus, amount of heat Q 1 , water vapor, "generated energy", "heat loss", "loss energy”, technical system.

7 . Exergy Loss Correlation

FIC family of some stages, additional losses, catalyst poisoning, indirect losses.

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1 9 .Maximum useful work . Le principle Chatelet .

Pressure, temperature, maximum useful work, ideal gas, Pv=RT, process enthalpy, entropy, term Chemical reaction, heat, pressure, simple equations, volume, reaction rate, heat of reaction, reaction mixture, heating.

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25 . Thermodynamic level of improvement of technical processes .

thermodynamic analysis of the technical process, FIC of various energy structures, technical process of thermodynamic improvement, comparative energy costs, complex energy technologies, high-quality type of energy, low-quality exergy, exergy FIC.

2 6 . Some rules of exergy analysis

exergy of the limit of substances, gas exergy, FIKi exergy during methane combustion, environment, change in the ammonia synthesis exergy during methane combustion and its calculation, chemical exergy of phosphorus, chemical exergy of chlorine, exergy of inorganic substances, partial, molar exergy, exergy of mixed substances, exergy of an idol .

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28 . Thermodynamic analysis of chemical processes

exergy analysis, exergy FIC, calculation, degree of thermodynamic improvement, various processes, FIC values, exergy FIC of technical systems.

29. \_ \_ Energy balance.

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