

“GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IAȘI

Faculty of Mechanical Engineering

Department of Mechanical and Automotive Engineering

Competition for **professor** position, item **3** in the payroll list of the **Department of Mechanical and Automotive Engineering**

Courses: Steam Generators

Boilers and Turbines Construction and Calculation

Wall Hung Hot Water Boilers

COMPETITION TOPICS

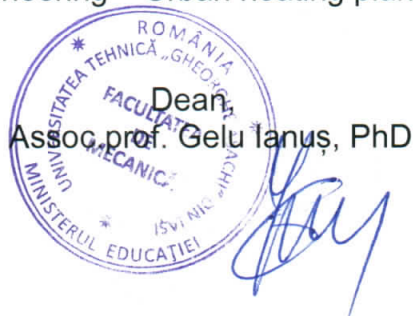
for **associate professor** position, item 3 in the payroll list of the **Department of Mechanical and Automotive Engineering**

1. Thermal balance of the combustion process. Stoichiometric equations of combustion. Air and flue gas. Enthalpy-temperature diagram.
2. Thermoenergetic balance of the steam generator. Equation of the thermoenergetic balance. Heat losses. Steam generator efficiency.
3. Heat transfer in steam generators. Radiation heat transfer. Convective heat transfer.
4. Construction of the components of the steam generator – vaporizer, economizer, superheater air preheater.
5. Combustion systems of condensing boilers. Constructive schemes, operation.

References:

1. Ungureanu C., Zubcu V., Pănoiu N., Ionel I., Combustibili - Instalații de ardere – Cazane (Fuels - Combustion systems – Boilers), Ed. Pedagogică, Timișoara, 1998, ISBN 973-9389-21-0
2. Neaga C., Tratat de generatoare de abur, vol. I, (A treatise of steam generators, vol I), Ed. Agir București, 2001, ISBN 973-8130-67-0
3. Pănoiu, N., Cazane de abur (Steam generators), Ed. Didactică și Pedagogică, București, 1982
4. Mihăescu L., Prisecaru T., Oprea I., Cazane și turbine. Noțiuni de bază (Basics of boilers and turbines), Ed. Matrix Rom, București, 1999, ISBN 973-685-036-6
5. Lungu C., Ilină M., Tratat de inginerie termică – Centrale termice urbane (A treatise of thermal engineering – Urban heating plants), Ed. Agir, București, 2013, ISBN 978-973-720-450-9

Dean,
Assoc. prof. Gelu Ianiș, PhD



Head of the Department
Assoc. prof. Ioan Băisan, PhD

