

## CHEM-E6165 UNIT PROCESSES IN PYROMETALLURGY

ONLINE-EXAM

7.4.2020,

09:00-13:00

**The use of course material, also in electronic form, in the exam is allowed.**

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**Name:**

**Student no.**

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**Questions** (Write your answer below the question)

1. What kinds of roles or tasks do gases (as an input material) have in pyrometallurgical unit processes?

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2. How can the very last percentages or ppm's of impurities be removed or alloying elements content adjusted in metals before casting and/or electrowinning.

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3. How does chemical reactions take place across **slag – metal/matte** interfaces? What are the forces and material properties governing those interactions and rates of reactions?

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4. What aspects you should consider and why when planning/performing experiments using thermal analysis techniques?

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5. If you should select/design a unit process for endothermic gas-solid reaction (e.g. roasting) and exothermic gas-solid reaction, what aspects you should consider and take into account?