

Economic Minerals and Rocks - TA3140

Tentamen 06-11-2012

Tijd: 9:00 – 12:00 h

Nota Bene:

- Voorzie elk antwoordvel van uw naam, datum en studienummer.
 - Lees de vragen goed door alvorens te antwoorden.
 - Niet elke vraag telt even zwaar.
 - Schrijf a.u.b. **duidelijk**.
 - De vragen bij voorkeur in het *Engels* beantwoorden. Indien u toch liever in het *Nederlands* wilt antwoorden, dan is dat **uiteraard toegestaan!**
 - U wordt verzocht de vragen weer in te leveren.
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- 1) What is *dimension stone*? Give some examples.
- 2) a) Describe the chemical process of refinement of *rutile*, TiO_2 .
b) What are/is the main use(s) of *rutile*, TiO_2 ?
- 3) What is meant with the acronym *PGE* and what are the *PGE*?
- 4) What is *vermiculite* and what is *exfoliated vermiculite*? How is the latter made, what is it used for?
- 5) Would it be possible to find *beryllium minerals* in a *Greisen*? Explain your answer.
- 6) *Coke* production is a process of carbonization. Describe the process.
- 7) Mention 4 different applications of *silica* (SiO_2). What are the requirements for silica these for applications?
- 8) Explain the terms *Grade*, *Cut-off Grade* and *Recovery*.
- 9) What are *Carbonatites*, and what ores are generally associated with them?
- 10) Explain the crystal-structural relationship between *sphalerite* (ZnS) and *chalcopyrite* (CuFeS_2).
- 11) Describe the process of *coalification* and give an example of three different *coal ranks*.
- 12) Mention 5 (general) properties of *sulfides*, and explain them.
- 13) What are the *Chalcogens*? Give an example.

14) *Goethite*, FeOOH , has the capacity to absorb large amount of ions and molecules on its surface. Explain this.

15) What forms of moisture are recognized in coal?