

## Assignment - 2 (10%)

Please answer practice questions 3.4, 3.5, 3.6, 3.12 at the end of the text book.

### 3.4. How does the internal structure of a mineral relate to its external appearance?

The unique internal arrangement of the atoms in minerals determines the shapes of crystal faces which in turn reflect to the external appearance.

### 3.5. What is the mineral cleavage? How could cleavage affect the engineering properties of rock composed of minerals with strong cleavage?



Cleavage is the tendency of crystalline of a mineral to split along different planes. It affects the engineering properties of the rocks since it results in weak planes along the cleavages that need to be considered during engineering design.

### 3.6. For which common minerals is the hardness a very useful diagnostic physical property?

1	Talc
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Orthoclase Feldspar
7	Quartz
8	Topaz
9	Corundum
10	Diamond

### **3.12. Why are the base metals so important in human history?**

Base metals have set important corner stones in human history since their mining and use in tool making were important achievements in our civilization. The some metals were also used as money in trade which made the commerce evolve to modern day.

-  Please follow the instructions outlined as Course Policy document.
-  Your answers shall not exceed one page.

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