

University of Al-Qadisiyah
College of Engineering
Department of Materials Engineering
Final Examination (2015-2016)
Examiner :Dr. Mohammed Abdulrazzaq



Subject: Extractive Metallurgy
Class: 1st Year
Time: 3 hours
Mark: 60 mark
Date: 1/06/2016

Answer all questions

Q1: Answer two branches of the following questions.

A: Give a comparison between Conductors, Semiconductors, and Insulators.

B: **What does it mean:** (Purification, Distillation, Electrolysis, Zone refining and give one example of each of them?)

C: **Complete the answer for the following facts:**

1. During the electrolysis of molten aluminium oxide ore, the aluminium ions move to
2. Oxidation of a substance can be defined as.....
3. The name of a common ore from which iron can be extracted is called.....

(7.5 mark for each branch)

Q2: Give short answer for General Questions:

1. What are the most common Metal Ores?
2. When is Electrolysis used for Extraction?
3. Are Ores Renewable?
4. Is the reaction at the Cathode called Oxidation or Reduction?
5. Write the Balanced Equation for the Overall Reaction.
6. What is Anodising?
7. Why is Limestone used in the Blast Furnace?
8. Is Iron a Magnetic Metal?
9. Is Copper Resistant to Corrosion?
10. Is Low Carbon Steel used to make Tools?

(15 mark)

Q3: A: **What is the reduction processes for the following metals :**
(Magnesium, Aluminum, Copper, Mercury)

B: Make a comparison between roasting and calcination.

C: Draw the following processes and alloy structure for:


(Electrolytic Refining of Cu, Hall Process, Tetrahedral Holes)

(5 mark for each branch)

Q4:A: Transition metals often have more than one common oxidation state. Give the relationship between the oxidation number and five different metals (diamagnetic, paramagnetic, and ferromagnetic).

B: What does recycling mean. Why are rubbish dumps thought to be a bad thing?

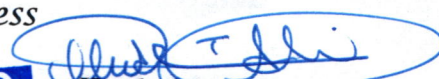
(7.5 mark for each branch)


Examiner

Dr. Mohammed Abdulrazzaq

Wishing you success




Head of department