Practice Question Set For A-Level
**Subject : Chemistry**
**Paper-1 Topic: Inorganic 1**

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

**Name of the Student**:_____
**Max. Marks : 18 Marks** **Time : 18 Minutes**

Q1.

This question is about Group 2 elements and their compounds.

(a) Explain why the melting point of magnesium is higher than the melting point of sodium.

_____

_____

_____

_____

_____

_____

**(2)**

(b) Give an equation to show how magnesium is used as the reducing agent in the extraction of titanium.

Explain, in terms of oxidation states, why magnesium is the reducing agent.

Equation

_____

Explanation _____

_____

_____

_____

_____

**(2)**

(c) State what is observed when dilute aqueous sodium hydroxide is added to separate solutions of magnesium chloride and barium chloride.

Observation with magnesium chloride _____

Observation with barium chloride _____

**(2)**

Downloaded from www.merit-minds.com

**(Total 6 marks)**

Q2.

This question is about the reactions of magnesium and its compounds.

(a) Magnesium is used in one of the stages in the extraction of titanium.

Give an equation for the reaction between titanium(IV) chloride and magnesium.
State the role of magnesium in this reaction.

Equation

_____

Role of magnesium _____

**(2)**

(b) A mixture of magnesium oxide and magnesium hydroxide has a mass of 3200 mg

This mixture is reacted with carbon dioxide to form magnesium carbonate and water. The mass of water produced is 210 mg

$$Mg(OH)_2 + CO_2 \rightarrow MgCO_3 + H_2O$$

$$MgO + CO_2 \rightarrow MgCO_3$$

Calculate the percentage by mass of magnesium oxide in this mixture.

% of magnesium oxide _____

**(4)**

**(Total 6 marks)**

Downloaded from www.merit-minds.com

Q3.

The following pairs of compounds, each in aqueous solution, can be distinguished by simple test-tube reactions.

Give a reagent, or combination of reagents, that can be added to the solutions in each pair to distinguish between them in a single reaction.

State what is observed in each case.

(a) NaCl(aq) and $BaCl_2$(aq)

Reagent _____

Observation with NaCl _____

Observation with $BaCl_2$ _____

**(3)**

(b) NaCl(aq) and $Na_2CO_3$(aq)

Reagent _____

Observation with NaCl _____

Observation with $Na_2CO_3$ _____

**(3)**

**(Total 6 marks)**

Downloaded from www.merit-minds.com