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 : 24 Marks **Time : 24 Minutes**

Q1.

Which one of the following is a correct procedure for isolating a sample of hydrated copper(II) sulphate from a mixture of hydrated copper(II) sulphate and barium sulphate?

A filter, crystallise filtrate, dry the crystals

B filter, dry the solid on the filter paper

C add water, filter, dry the solid left on the filter paper

D add water, filter, crystallise filtrate, dry the crystals

(Total 1 mark)

Downloaded from www.merit-minds.com

Q2.

State the trends in solubility of the hydroxides and of the sulphates of the Group II elements Mg–Ba.

Describe a chemical test you could perform to distinguish between separate aqueous solutions of sodium sulphate and sodium nitrate. State the observation you would make with each solution. Write an equation for any reaction which occurs.

(Total 6 marks)

Downloaded from www.merit-minds.com

Q3.

This question concerns the chemistry of the Group II metals Mg to Ba.
An aqueous solution of a Group II metal chloride, **X**Cl_2, forms a white precipitate when dilute aqueous sodium hydroxide is added. A separate sample of the solution of **X**Cl_2 does **not** form a precipitate when dilute aqueous sodium sulphate is added.

An aqueous solution of a different Group II metal chloride, **Y**Cl_2, does **not** form a precipitate when dilute aqueous sodium hydroxide is added. A separate sample of the solution of **Y**Cl_2 forms a white precipitate when dilute aqueous sodium sulphate is added.

Suggest identities for the Group II metals **X** and **Y**. Write equations, including state symbols, for the reactions which occur.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Total 6 marks)

Downloaded from www.merit-minds.com

Q4.

(i) For the elements Mg–Ba, state how the solubilities of the hydroxides and the solubilities of the sulphates change down Group II.

(3)

(ii) Describe a test to show the presence of sulphate ions in an aqueous solution. Give the results of this test when performed on separate aqueous solutions of magnesium chloride and magnesium sulphate. Write equations for any reactions occurring.

(6)

(iii) State the trend in the reactivity of the Group II elements Mg–Ba with water.

Write an equation for the reaction of barium with water.

(2)

(Total 11 marks)

Downloaded from www.merit-minds.com