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

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Name of the Student:_____
Max. Marks : 15 Marks **Time : 15 Minutes**

Q1.

Concentrated sulfuric acid reacts with solid potassium iodide as shown in the equation.

$$8KI + 9H_2SO_4 \longrightarrow 4I_2 + 8KHSO_4 + H_2S + 4H_2O$$

Give **two** observations that you would make when this reaction occurs.

In terms of electrons, state what happens to the iodide ions in this reaction.

State the **change** in oxidation state of sulfur that occurs during this formation of H_2S and deduce the half-equation for the conversion of H_2SO_4 into H_2S

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(Total 5 marks)

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Q2.

Chlorine is a powerful oxidising agent.

(a) Write the **simplest ionic** equation for the reaction between chlorine and aqueous potassium bromide.

State what is observed when this reaction occurs.

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(2)

(b) Write an equation for the reaction between chlorine and cold, dilute, aqueous sodium hydroxide.

Give a major use for the solution that is formed by this reaction.

Give the IUPAC name of the chlorine-containing compound formed in this reaction in which chlorine has an oxidation state of +1.

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(3)

(c) Write an equation for the equilibrium reaction that occurs when chlorine gas reacts with cold water.

Give **one** reason why chlorine is used for the treatment of drinking water even though the gas is very toxic.

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(2)

(d) State how you could test a sample of water to show that it contains chloride ions.

In your answer, give a reagent, **one** observation and the **simplest ionic** equation for the reaction with the reagent.

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(3)

(Total 10 marks)

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