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

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Name of the Student:_____
Max. Marks : 27 Marks **Time : 27 Minutes**

Mark Schemes

Q1.

(a) Reduction involves gain of electrons (1)

A reducing agent loses (donates) electrons (1)

2

(b) (i) Sulphur dioxide (1)

oxidation state +4 (1)

Sulphur (1)

oxidation state 0 (1)

Hydrogen sulphide (1)

oxidation state – 2 (1)

6

(ii) Sulphur dioxide is a choking gas or has a pungent odour (1)

Sulphur is a yellow solid (1)

Hydrogen sulphide has a smell of bad eggs (1)

Any 2 marks

2

(iii) $SO_4^{2-} + 4H^+ + 2e^- \rightarrow SO_2 + 2H_2O$ (1)

$SO_4^{2-} + 8H^+ + 6e^- \rightarrow S + 4H_2O$ (1)

$SO_4^{2-} + 10H^+ + 8e^- \rightarrow H_2S + 4H_2O$ (1)

Any 2 marks

(Allow equations with H_2SO_4)

2

(c) $Cl_2 + H_2O \rightarrow H^+ + Cl^- + HOCl$

or $Cl_2 + H_2O \rightarrow 2H^+ + Cl^- + OCl^-$

or $Cl_2 + H_2O \rightarrow HCl + HOCl$ (1)

Water is not oxidised (1)

The oxidation states of O (–2) and H (+1) remain unchanged (1)

3

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Q2.

(a) decreases

1

number of shells increases/ shielding increases /atomic size increases

weaker attraction (by nucleus) on bonding electrons / weaker attraction (by nucleus)

1

on electron pair in a covalent bond

1

(b) (i) increases

1

(ii) concentrated sulphuric acid

1

(c) white ppt

1

soluble in ammonia

1

cream ppt

1

partially soluble /insoluble in ammonia

1

(d) $Cl_2 + 2NaOH \rightarrow NaCl + NaOCl + H_2O$

1

bleach

1

disinfectant /steriliser/kills bacteria

1

[12]

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