

City International School

ANNUAL EXAMINATION 2015 – 2016

Date : 14/03/2016

Std : VIII

Subject : Chemistry (Paper 2)

Marks : 80

Time : 2 hrs

Answer to this paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is spent in reading the question paper.

The time at the head of this paper is the time allowed for writing the answers.

Section A is compulsory. Attempt any four questions from section B.

The intended marks for questions or parts of questions are given in the bracket ().

SECTION – A [40 MARKS]

Attempt all question from this section.

- Q. 1** a. i. State the Electronic Configuration of the following atoms. (3)
1. ${}^{19}_{9}\text{F}^{-1}$ 2. ${}^{31}_{15}\text{P}$ 3. ${}^{40}_{20}\text{Ca}^{2+}$
- ii. State the type of reaction. (5)
1. $2\text{NaCl} + \text{CaSO}_4 \longrightarrow \text{Na}_2\text{SO}_4 + \text{CaCl}_2$
2. $\text{HNO}_3 + \text{NaOH} \longrightarrow \text{NaNO}_3 + \text{H}_2\text{O}$
3. $\text{NH}_4\text{Cl} \rightleftharpoons \text{NH}_3 + \text{HCl}$
4. $2\text{HgO} \longrightarrow 2\text{Hg} + \text{O}_2$
5. $\text{Mg} + \text{ZnSO}_4 \longrightarrow \text{MgSO}_4 + \text{Zn}$
- iii. Explain why silver spoon turns black on coming in contact with egg or certain green vegetables. (2)
- b. i. Draw the orbital diagram of the following. (3)
1. ${}^{39}_{19}\text{K}$ 2. ${}^{27}_{13}\text{Al}^{3+}$ 3. ${}^{19}_{9}\text{F}^{-1}$
- ii. Write the formula of the following compounds. (5)
1. Trilead tetroxide
2. Nitrous Acid
3. Caustic soda
4. Slaked lime
5. Nitric oxide
- iii. Name two Allotropes of sulphur (2)
- c. i. Given balanced equation to carry out the following conversions. (4)
1. Sodium \longrightarrow Sodium hydroxide
2. Iron \longrightarrow Ferric hydroxide
3. Sulphur \longrightarrow Sulphuric acid
4. Nitrogen \longrightarrow Nitric acid + Nitrous acid

- ii. Classify the following as strong electrolyte, weak electrolyte and non electrolyte (3)
 1. Glycerine 2. Citric acid 3. Dilute hydrochloric acid
- iii. Write down the composition of the following. (3)
 1. Brass 2. Solder 3. Stainless steel
- d. i. Write down the observations when the following compounds are heated. (6)
 1. CuCO_3 2. Sugar 3. Red lead
- ii. Write down the color of the flame test when the following elements are heated. (2)
 1. Sodium 2. Potassium
- iii. Write down the characteristic flame when the following elements are burnt in air. (2)
 1. Carbon 2. Phosphorous

SECTION – B [40 MARKS]

Attempt any four questions from this section.

- Q. 2** a. Give the reactions for electroplating a bell with nickel (both cathode and anode) (2)
- b. The principle of concentration of the ores are given below. Name the process of concentration. (3)
 i. Different wetting characteristic
 ii. Difference in densities
 iii. Magnetic properties
- c. Place K, Mg and Fe in the activity series based on its reaction with water. (3)
- d. Define Allotropes. (2)
- Q. 3** a. Write a chemical test to distinguish between Ca^{2+} and Zn^{2+} salt (4)
- b. Differentiate between diamond and graphite on the basis of (2)
 i. Nature ii. Conductivity
- c. Explain why coke is used to decolorize impure coloured solution. (2)
- d. Graphite is used in the manufacture of refractory crucibles. Explain. (2)

- Q. 4** a. Write down the reactions for concentration of the Bauxite ore. (3)
- b. Write down a suitable method (with reaction) for reducing the following metal oxides (4)
- i. Cr_2O_3 ii. Fe_2O_3 iii. HgO iv. NaCl
- c. Write down one application of electrolysis. (1)
- d. Identify whether the following reactions are oxidation or reduction reactions (2)
- i. $\text{Na} - 1\text{e}^- \longrightarrow \text{Na}^+$ ii. $\text{Cu}^{2+} + 2\text{e}^- \longrightarrow \text{Cu}$
- Q. 5** a. Complete the balance the following reactions. (6)
- i. $\text{SiO}_2 + \text{C} \longrightarrow$ iv. $\text{NH}_4\text{Cl} + \text{NaOH} \longrightarrow$
- ii. $\text{C} + \text{H}_2\text{O} \longrightarrow$ v. $\text{Cu} + \text{HNO}_3 \longrightarrow$
- iii. $\text{ZnO} + \text{C} \longrightarrow$ vi. $\text{C}_6\text{H}_{10}\text{O}_5 \longrightarrow$
- b. i. Name two oxides of metals which are acidic in nature. (4)
- ii. Name two non metals which are good conductors of electricity.
- Q. 6** a. Write down the observations (6)
- i. ZnCO_3 is heated
- ii. BaCl_2 solution is added to Na_2SO_4 .
- iii. NaOH is added to CuSO_4 solution first in small quantity and then in excess.
- b. Write down the reactions for the electrolysis of molten lead bromide and molten sodium chloride. (4)