



# TEST PAPER: CHEMISTRY

Time: 50 Minutes

Class: ICSE 10<sup>th</sup>

Max. Marks: 30 Marks

Date: 23<sup>rd</sup> July, 2018

**Marking Scheme:** Questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.

## Question: 1

- A. Give the condensed structure for the following organic compounds:
- 2-methyl butane
  - 2,2-dimethyl propane
  - Propanoic acid
  - methyl ethanoate
  - 2-methyl propan-2-ol
  - but-2-yne
- B. Give the equations for the following conversions:
- Ethane to ethanol
  - Ethene to ethane
- C. Give reasons for the following:
- Alkenes are known as olefins
  - Alkenes are more reactive than alkanes.

## Question: 2

- A. State why nitric acid
- Stains the skin
  - Cannot be concentrated beyond 68% by boiling
- B. Give an equation for the reaction of conc.  $\text{HNO}_3$  with:
- Carbon
  - Copper
- C. State the application of nitric acid in the following:
- In the purification of gold
  - In the preparation of aqua regia

## Question: 3

- A. State the observations when conc. Sulphuric acid is added to:
- Glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ )
  - Ethanol
- B. Give the action of heat on (i) lead nitrate (ii) ammonium nitrate (iii) calcium carbonate
- C. Complete and balance the following reactions:
- $\text{Na}_2\text{O} + \text{H}_2\text{SO}_4 \longrightarrow$
  - $\text{K}_2\text{CO}_3 + \text{H}_2\text{SO}_4 \longrightarrow$
  - $\text{HI} + \text{H}_2\text{SO}_4 \longrightarrow$
  - $\text{Zn} + \text{H}_2\text{SO}_4 \longrightarrow$

## Question: 4

- A. Calculate the percentage by weight of:
- Al in Aluminium Sulphate [Al=27, S=32, O=16]
  - C in calcium carbonate [Ca=40, C=12, O=16]
- B. Calculate the number of moles of  $\text{KClO}_3$  that will be required to produce 6 moles of oxygen. 3-M
- C. Calculate the weight of ammonia gas required for reacting with Sulphuric Acid to give 78 g of Ammonium Sulphate. [N=14, S=32, H=1, O=16]
- $$2\text{NH}_3 + \text{H}_2\text{SO}_4 \longrightarrow (\text{NH}_4)_2\text{SO}_4$$

## Question: 5

- A. Name the following:
- The property by virtue of which atoms of an element link to each other to form a long chain
  - The IUPAC name of acetylene
  - The IUPAC name of Chloroform
- B. In the manufacture of sulphuric acid by contact process give the following reactions
- Sulphur burner
  - Contact tower
  - Absorption tower
- C. A compound of carbon 40% hydrogen 6.7% and oxygen 53% having its vapour density 30. Calculate its molecular and empirical formula.