TEST PAPER: CHEMISTRY

Time: 50 Minutes **Class:** ICSE 9th

Max. Marks: 30 Marks **Date:** 13th June, 2018

Marking Scheme: *Three 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. Define ionization potential. State the factors affecting ionization potential with respect to atomic size and nuclear charge.

B. Give reasons for the following:

a. Atoms with large atomic radii and low ionization potential are more metallic in nature.
b. Fluorine is the most electronegative element of the periodic table.
c. Electron affinity of noble gas elements is zero.

C. Arrange the following elements as per the guidelines:

a. Na, Cl, Mg, P (in increasing order of atomic size)
b. Li, F, C, O (in increasing order of electron affinity)
c. Cl, Al, Na, S (in increasing order of ionization potential)
d. C, Li, F, N (in increasing order of electronegativity)

Question 2:

A. Write the balanced chemical equations for the following word equations:

a. Aluminium + Water → Aluminium Oxide + Hydrogen
b. Lead(IV) Oxide + Hydrochloric acid → Lead(II) Chloride + Water + Chlorine
c. Nitrogen + Hydrogen → Ammonia

B. Balance the following chemical equations:

a. $ZnS + O_2 \rightarrow ZnO + SO_2$
b. $Fe_2O_3 + H_2 \rightarrow Fe + H_2O$
c. $P + O_2 \rightarrow P_2O_5$
d. $C + H_2SO_4 \rightarrow CO_2 + H_2O + SO_2$
e. $ZnO + NaOH \rightarrow Na_2ZnO_2 + H_2O$
f. $NO + O_2 \rightarrow NO_2$

C. Calculate the relative molecular masses of the following: [Na=23,O=16, H=1, S=32, N=14, C=12, K=39]

a. NaOH b. K_2SO_4 c. HNO_3 d. CO_2

Question 3:

A. Classify following into light and heavy metals on the basis of neutron and proton ratio:

a. Na (Z=11, A=23)
b. Mg (Z=12, A=24)
c. U (Z=92, A=236)

B. Give 3 differences between group-I elements and halogens. Also, state 2 examples of each.

C. Name the following providing one example of each:

a. The group whose elements have zero valency.
b. The group whose elements have valency of 2
c. The group whose elements have seven valence electrons.
d. The group whose elements have valency of -1