

Girls' High School & College, Prayagraj

Worksheet No. : 1

Session : 2020-21

Class : X A, B, C, D, E, F

Subject : Chemistry

Instructions: Parents are expected to ensure that the student spends 2 days to read and understand the chapter according to the books and website referred and thereafter answer the given questions.

Note: Chapter- Periodic table, periodic properties and variations of properties

Topic: Modern periodic table and two periodic properties (Atomic size, ionization potential)

Book: Concise Chemistry by Dr. S. P. Singh (Selina Publication) / I.C.S.E. Chemistry (Goyal Brothers Prakashan)

Website: Wikipedia and chem.libretexts.org

QUESTION 1: Fill in the blanks

- (a) Across a period, the ionization potential _____. (increases, decreases, remains same)
- (b) The ionization potential of potassium is _____ that of sodium. (more than, less than)
- (c) If an element has 7 electrons in its outermost shell then it is likely to have the _____ atomic size among all the elements in the same period. (largest, smallest)
- (d) In the modern periodic table, the properties of elements are periodic function of their _____. (atomic mass, atomic number)
- (e) All elements in a group have the same number of _____. (shells, valence electrons)

QUESTION 2 :Answer the following questions:

- (a) Give the electronic configuration of ${}_{16}\text{S}^{32}$.
- (b) To which group and period does it belong. (c) State the name assigned to its group.

QUESTION 3: Arrange the following as per the instructions given in the brackets:

PAGE: 1/2

- (a) Cs, Na, Li, K, Rb (decreasing order of ionization potential)
(b) Be, Li, C, B, N, O, F (increasing order of atomic size)

QUESTION 4: Give one word / chemical term for the following:

- (a) The minimum amount of energy required to remove valence shell electron from a neutral isolated gaseous atom of an element.
(b) The element which has the highest ionization enthalpy value.
(c) The smallest atom in the third period.
(d) The element with the least ionization energy in the second period.
(e) The element having three shells with three electrons in valence shell.

QUESTION 5: Give appropriate scientific reasons for each of the following statements:

- (a) Group 1 elements show similar chemical properties.
(b) Ionization potential decreases down the group.
(c) Inert gases do not form ions.
(d) Atomic size decreases from left to right across a period.

QUESTION 6: Write the chemical formula of the compound formed when boron reacts with chlorine.

END

PAGE: 2/2