Quarterly Examination - 2018-19

CHEMISTRY

Class : VII

Time : 2 Hrs. 15 mints **Full Marks : 80**

Section A (40 marks)

(All questions are compulsory)

I. Give one word (10)

1. The charged atom
2. The scientist who put forth the planetary model of the atom.
3. The process used to decompose water molecules by the passage of an electric current
4. Elements that have four or more than four valence electrons.
5. A chemical reaction which proceeds with the liberation of heat energy.
6. The combining capacity of an element.
7. The vertical column of the periodic table.
8. A gas that puts off a burning splinter with a pop sound.
9. The type of change that can be easily reversed.
10. The particle in an atom which has positive charge.

II. Fill in the blanks (5)

1. _____ crystal sublime on heating
2. _____ have any number of free surfaces
3. When a chlorine atom gains an electron it is called __
4. When ignited in air magnesium burns with a dazzling _____ flame.

5. The manner in which electrons arrange themselves in the various orbits is called _____

III. Classify the following as physical or chemical change (3)

1. Digestion of food
2. Photosynthesis in plants\
3. Glowing of electric bulb

IV. Match the following : (5)

Column A	Column B
1. A polyatomic molecule	a. Helium
2. Inert gas	b. Valence electron
3. Outermost shell	c. Ozone
4. Elements having valency of three	d. 8 valence electrons
5. Elements in group VIII A	e. Aluminium

V. Write the correct option (5)

1. Name an atom in which the nucleus of that atom does not contain any neutrons

   a. Oxygen b. Hydrogen c. Phosphorous d. Sodium

2. An element acquires negative charge by

   a. accepting electrons b. donating electrons

   c. Sharing electrons d. both a & b

3. Which of the following is a property of diffusion?

   a. slowest in liquid b. fastest in gases

   c. all of the above d. based on motion of particles

4. Name the particle which make up matter

   a. Non metals b. Metalloid c. Metals d. atoms

c. Give reasons

   i. solids have high density while gases have minimum density (2)

d. What do you observe : (3

   i. When copper carbonate is heated in a hard glass test tube.

   ii. Identify the type of change

   iii. Name the gas evolved

Q6. a. Differentiate between Groups and Periods (2)

b. What are valance electrons? How many valence electrons are present in atom with atomic number 6 and 11 (2+2)

c. An element ‘x’ has electronic configuration 2, 8, 2

   i. Identify it as a metal, non metal or inert gas and give reason. (2)

   ii. Write the symbol of an ion ‘x’ and its name, (2)

5. The present concept of the structure of an atom is given by which scientist?

a. Rutherford b. Goldstein

c. Neils Bohr d. J. J. Thomson

VI. State True or False. Correct the false statement. (5)

1. Neutron revolve around the nucleus.
2. Atomic number is represented by the letter 'M.'
3. Energy is neither absorbed nor evolved during chemical change.
4. Sublimation occurs only when the solid is heated.
5. An increase in pressure raises the melting point of a solid.

VIII. Copy and complete the following table relating to the atomic structure of same elements (7)

Elements	Atomic number	Mass number	No. of protons	No. of neutrons	No. of electrons
Beryllium	4	9	–	–	–
Nitrogen	7	–	7	–	7
Sodium	–	–	–	12	11
Aluminium	–	27	–	–	13
Phosphorus	–	31	15	–	–

Section B

Attempt any four questions

Q1 a. Differentiate between physical and chemical change (3)

b. Calculate the number of electrons, protons and neutrons (3)

i. $^{24}_{12}Mg$ ii. $^{35}_{17}Cl$

c. Give reasons : (4)

i. Manufacture of food by green plants is a photochemical reaction.

ii. Gases have no free surfaces.

Q2. a. Explain why the burning of a wax is both a physical as well as a chemical change. (2+2)

b. What do you observe when a strip of magnesium is added to hydrochloric acid. (2+2)

i. name the colourless solution

ii. name the gas evolved

c. Give one example of a chemical reaction in which light is absorbed. (2)

Q3. a. Explain why an atom is electrically neutral. (2)

b. Write the difference between 2Cl and Cl_2 (2)

c. Differentiate between cation and anion (2)

d. Name a non-metallic element (1)

e. Draw the atomic diagram of nitrogen ($^{14}_{7}N$) (3)

Q4. a. Write any one example of each monoatomic, diatomic and triatomic molecules. (3)

b. Write the electronic configuration of elements with following atomic number (4)

i. 15 and 9

c. What are subatomic particles (1)

d. Name the gas evolved when red lead is heated in a hard glass test tube. (2)

Q5. a. How formation of curd is a chemical change? (2)

b. Write the valency of the following elements (3)

i. Mg ii. P iii. Cl