

Quarterly Examination 2017-2018

Std. : VIII
Subject : CHEMISTRY

Full Marks : 80
Time : 2hrs.+15mins.

Q1. Fill in the Blanks :- (5)

- I. The idea of smallest unit of matter was first given by _____
- II. Anode Rays are made up of _____ charged particles.
- III. Mass number is equal to total number of _____ and _____.
- IV. Isotopes have similar _____ properties.

Q2. Write the Chemical Name of the Following :- (5)

- I) $Ca(NO_3)_2$
- II) $Al_2(SO_4)_3$
- III) K_2SO_4
- IV) $FeSO_3$
- V) Cu_2S

Q3. Balance the Following chemical equations :- (5)

- I. $Ag_2O \longrightarrow Ag + O_2$
- II. $P_4 + O_2 \longrightarrow P_2O_5$
- III. $HCl + CaO \longrightarrow CaCl_2 + H_2O$
- IV. $Na + H_2O \longrightarrow NaOH + H_2$
- V. $Fe + H_2O \longrightarrow Fe_3O_4 + H_2$

Q4. Write the chemical Formulae for the following compounds :- (5)

- I. Iron (II) Sulphate
- II. Aluminium Oxide
- III. Copper (II) Hydroxide
- IV. Potassium Carbonate
- V. Zinc bromide

Q5. Identify and name the gas evolved in the following :- (5)

- I. A colourless and odourless gas which is neutral to litmus.
- II. A greenish yellow gas with pungent odour
- III. A gas which turns lime water milky
- IV. A gas which turns moist blue litmus paper red and finally bleaches.
- V. A gas when passed through silver nitrate solution produces white precipitate.

Q6. What do you observe when :- (4)

- I. A burning splint is brought near hydrogen gas .
- II. A litmus test on hydrogen gas
- III. Chlorine Gas is passed through potassium iodide solution
- IV. Washing soda is strongly heated.

Q7. State the type of reaction (5)

- I. $Cl_2 + 2 KBr \longrightarrow 2KCl + Br_2$
- II. $2H_2O_2 \longrightarrow 2H_2O + O_2$
- III. $2SO_2 + O_2 \longrightarrow 2SO_3$
- IV. $CuSO_4 + Zn \longrightarrow ZnSO_4 + Cu$
- V. $NaOH + HCl \longrightarrow NaCl + H_2O$

Q8. State the original Colour of the following substance and colour of residue obtained after heating

- I) Copper Carbonate
 - II) Zinc Carbonate
- (4)

Q9. An atom of an element x has 2 electrons in its L shell

- i) State its Electronic configuration
 - II) Name the Element
- (2)

Section B (40 Marks)
(Attempt any 4 Questions)

Q1. A) Calculate the relative molecular mass of the following compound [4]

- I) $(NH_4)_2 CO_3$
- II) $Mg_3 N_2$

Given Atomic Mass of N = 14; H = 1; C = 12; O = 16 ; Mg = 24

B) Complete The Table (Write the formulae) :— [3]

| Acid Radical | → | Nitrate | Sulphate | Carbonate |
|---------------|---|---------|----------|-----------|
| Basic Radical | | | | |
| Zinc | | | | |

C) Define [3]

- i. Valence Electrons;
- ii) Covalent Bond;

Q2. A) Define Isotopes. Draw structure of isotopes of hydrogen and write their names ? [4]

B) What is the valency of nitrogen in the following compound [4]

- i. $N_2 O_3$
- ii. $N_2 O_5$
- iii. NO_2
- iv. N_2O_4

- C) Which sub atomic particle was discovered by [2]
 a) Thomson; b) Chadwick;

Q3. A) Give the postulates of Bohr's atomic model [3]

B) Complete the table [5]

| SI No. | Elements | Atomic No | Mass No | No Of Neutron | No of Electron | No of proton |
|--------|-----------------|-----------|---------|---------------|----------------|--------------|
| i. | Li ⁺ | 3 | 7 | | | |
| ii. | Cl ⁻ | 17 | | 20 | | |
| iii. | Na | | | 12 | 11 | 11 |
| iv | Al | 13 | 27 | | | 13 |

C) Give reason [2]

- 1) Chemical properties of Isotopes are same ;
- 2) Argon does not react;

Q4. A) Name the following : [5]

- I. An element having valency '0'
- II. A metal with valency '2'
- III. A metal with variable valency
- IV. The element does not contain any neutron in its nucleus
- V. Name the sub-atomic particle whose charge is '+1'

B) Draw the Orbital diagram of Magnesium (${}_{12}^{24}\text{Mg}$) and state the valency. [3]

C) What is the Latin name of Iron ? [1]

D) Identify the bond present in Hydrogen molecule ? [1]

Q5. A) Write the electronic configuration and valency of the following [5]

| ELEMENT | Atomic Number | ELECTRONIC CONFIGURATION | VALENCY |
|-----------|---------------|--------------------------|---------|
| Sodium | 11 | | |
| Helium | 2 | | |
| Oxygen | 8 | | |
| Aluminium | 13 | | |
| Carbon | 6 | | |

B) State the type of bond in [2]
i) Water; ii) Calcium Oxide

C) Calculate the Percentage of oxygen in water (Atomic Mass of H = 1 and O = 16) [3]

Q6. A) Complete the table by writing basic and acid radical [5]

| SI No. | Name | Basic radical | Acidic radical |
|--------|--------------------|---------------|----------------|
| 1 | Calcium Sulphate | | |
| 2 | Magnesium Oxide | | |
| 3 | Zinc Carbonate | | |
| 4 | Potassium Sulphate | | |
| 5 | Iron II Chloride | | |

B) Draw the electron dot structure of NaCl [3]

C) Give an example of a reaction involving change of state ? [2]

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