Chemistry Class 9

Karachi Board   pakcity.org

Target paper

CHAPTER # 1

FUNDAMENTAL OF CHEMISTRY

Q1.   Define Chemistry. Define four different branches of chemistry

Q2.   Give contribution of Muslim Scientists

Q3.   Define: matter, atom, molecule, compound

Q4.   Differentiate between   mixture and compound   empirical formula and molecular formula

Q5.   What is an ion? Also define cation, anion

Chapter # 2

ATOMIC STRUCTURE

Q1)   Describe the discovery of cathode rays.

Q2)   Give the Properties of Cathode Ray, canals rays, neutron

Q3)   Define atomic number (Z), mass number (A)

Q4)   Discuss Rutherford gold metal foil experiment in the light of structure of atom.

Q5)   Write the Rutherford atomic model defects.

Q6)   Neil Bohr postulates

Q7)   What is an isotope? Discus the isotopes of Hydrogen

Q8)   Describe the Schrodinger atomic model,

Chapter # 3

PERIODIC TABLE AND PERIODICITY OF PROPERTIES

Q1)   State Dobereiner's triad, Newland law of octaves Mendeleev periodic law, modern periodic law.

Q2)   Discuss the period in modern periodic table.

Q3)   Give properties of I-A, IV-A, VII-A, VIII-A group of modern periodic table

Q4)   Distinguish between periods and groups

Q5)   Discuss in detail the long form of periodic table.

Q6)   Define Atomic Radius, Ionization energy, electron affinity, electronegativity.

Chapter # 4

CHEMICAL BONDING

Q1)   Define Chemical bond. Define Ionic bonds. Explain it with one example.

Q2)   Define Covalent bond. Discuss the types of covalent bond with Example

Q3)   Distinguish polar and non-polar bond.

Q4)   What is Coordinate Covalent Bond or Dative Covalent Bond? Discuss it with an example.

Q5)   Define the Intermolecular forces, Hydrogen Bonding

Q6)   Write some properties of ionic compounds.

Q7)   Write some properties of covalent compounds.

CHAPTER 5

STATES OF MATTER

Q1.   Give three postulate of gas, liquid, solid

Q2.   State and explain Boyle's law. Also establish a relation between volume and pressure of a gas

Q3.   State and explain Charles's law. Also establish a relation between volume and temperature of a gas

Q4.   Differentiate between Amorphous and crystalline solid

Q5.   Define Allotropy. Name the different allotropies of carbon

Q6.   What do you know about plasma state? Also give examples of plasma state.

Q7.   What is Bose Einstein Condensate?

CHAPTER 6

SOLUTIONS

Q1.   Differentiate between

Saturated and Unsaturated Solution   Solution and suspension.

Q2.   What are colloid

Q3.   What is supersaturated solution

Q4.   Define solubility. Give the general principles of solubility.

CHAPTER 7

ELECTRO CHEMISTRY

Q1.   Define electrochemical reactions

Q2.   What is oxidation reaction. Give two chemical equations for oxidation

Q3.   What is reduction reaction. Give two chemical equations for oxidation

Q4.   Differentiate between oxidation and reduction reaction

Q5.   Define electrolytes, non-electrolytes, strong electrolytes, weak electrolytes, alloy

Q6.   State Faraday's first law of Electrolysis. Also explain it.

Q7.   State Faraday's second law of Electrolysis.

Q8.   Write shote note on dry cell and Lead Storage Battery

Q9.   What is corrosion. Give methods for prevention form corrosion.

CHAPTER 8

CHEMICAL REACTIVITY

Q1. Differentiate between metals and nonmetals.

Q2. Compare the properties of Alkali and Alkaline Earth Metals

Q3. Give properties of sodium and give its uses

Q4. What are soft and hard metals. Also give their examples

Q5. Write short note in silver, gold

Q6. What are halogens? Give their chemical reaction

Numerical/Exercise

Q1. Calculate the molar mass of the following.

1.   KOH   **Ans. 56 a.m.u**

2. H_2SO_4 **Ans. 98a.m.u**

3. $Al(OH)_3$ **Ans. 78a.m.u**

4. Al_2O_3 **Ans. 73 a.m.u**

5. $MgCl_2$ **Ans. 95 a.m.u**

6. KNO_3 **Ans. 101 a.m.u**

Q2. Balance the following chemical reaction.

1. $Al \quad + O_2 \quad \rightarrow \quad Al_2O_2$

2. $Mg \quad + \quad CO_2 \quad \rightarrow \quad MgO \quad + C$

3. $H_2S \quad + \quad O_2 \rightarrow \quad H_2O \quad + S$

4. $NH_3 \quad + \quad Cl_2 \rightarrow N_2 \quad + HCl$

5. $NH_3 \quad + O_2 \quad \rightarrow NO \quad + H_2O$

6. $KNO_3 \quad \rightarrow KNO_2 \quad + \quad O_2$

Q3. Calculate Number Of Moles

1.   130 gram of HNO_3 **Ans. 2.063 mole**

2.   35 gram of $CaSO_4$ **Ans. 0.257 mole**

Q4. Calculate the mass of following.

1.   2 moles of Mg   **Ans. 48 gm**

2.   7.5 moles of N   **Ans. 105 gm**

3.   2.23 moles of HCl   **Ans. 81.395 gm**

4.   1.25 moles of KOH   **Ans. 70 gm**

Q5. Calculate the number of atoms in following:

1.   5 gram of Ca   **Ans. 0.753×10^{23} atoms**

2.   1.75 gram of S   **Ans. 0.329×10^{23} atoms**

Q6. Calculate the number of molecules in following:

1.   4 gram of CO_2 **Ans. 0.547×10^{23} molecules**

2.   3 gram of HNO_3 **Ans. 0.287×10^{23} molecules**

Q7. Give valence shell Electronic of:

I-A,   II-A,   III-A,   IV-A,   V-A,   VI-A,   VII-A,

VIII-A,   Nobel gas,   s-block,   p-block,   d-block,   F-block

Q8.   The 700 cm^3 of a gas is enclosed in a container under a pressure of 650 mm of Hg. If the volume is reduced to 350 cm^3 , what will be the pressure then?

Q9.   A 600 ml sample of gas is heated from 27 °C to 77 °C at constant pressure. What is the final volume?

Q10. A gas is desired to increase the volume of a fixed amount of gas from 90.5 cm^3 to 120 cm^3 while holding the pressure constant. What would be the final temperature if initial temperature is 33 °C.

Q11. The 800 cm^3 of a gas is enclosed in a container under a pressure of 750 mm. If the volume is reduced to 250 cm^3, what will be the pressure?

Q12. What is the molarity of the solution prepared by dissolving 1.25 g of HCl gas into enough water to make 30 cm^3 of solution?

Q13. What volume of 0.5M acid is needed to neutralize 200ml of 4M base?

Q14. A solution of 20cm^3 of alcohol is dissolved in 80cm^3 of water. Calculate the concentration (v/v) of this solution.

Q15. How much sodium hydroxide (NaOH) is required to prepare 400 cm^3 of 0.3M solution?

Q16. A sample of Sulphruic acid has the molarity 20M. How many cm^3 of solution should you use to prepare 500 cm^3 of 0.5M H_2SO_4?

Q17. How many Proton, Neutrons and Electron are present in the following atoms?

1. $^{23}_{11}Na$
2. $^{16}_{8}O$
3. $^{12}_{6}C$
4. $^{16}_{8}O^{-2}$
5. $^{39}_{19}K$