Unit 7. Atoms and Molecules.

Important 2 Marks Questions:

(1) a) Define: Relative atomic mass

b) Relative atomic mass is otherwise known as _____

(2) Write the different types of Isotopes of oxygen and its percentage abundance. ✓

(3) a) Define: Atomicity ✓

b) Give examples for heterodiatomic molecules.

(4) What is Molar volume of a gas? ✓

(5) (i) Find the percentage of nitrogen in ammonia.

(ii) Calculate % of 's' in H_2SO_4 ✓

(iii) Find the mass percentage composition of methane (CH_4)

(6) (a) Calculate the number of water molecule present in one drop of water which weighs 0.18 gm.

(b) Calculate the number of atoms present in 1 gram of gold (Atomic Mass of Au = 198 gm).

(c) Calculate the number of molecules in 54 gm of H_2O?

(7) Define: (a) Isotopes (b) Isobars (c) Isotones. ✓

(8) Calculate the gram Molecular Mass of the following:

(i) H_2O (ii) CO_2 (iii) $Ca_3(PO_4)_2$ (iv) H_2SO_4 (v) NaOH ✓

(9) Differentiate: Atoms and molecules ✓

(10) What is homoatomic molecule and heteroatomic molecules? Give examples.

(11) True? or False? (If false give the correct statement)

(i) Noble gases are Diatomic

(ii) Molar mass of CO_2 is 42 gm. ✗

(iii) The gram atomic mass of an element has no unit.

(iv) Atoms of different elements having same number of neutrons are called isotopes.

(v) H_2O molecules are diatomic

II Important 4, 7 Marks Questions:

(1) Give the Salient features of "Modern atomic theory". ✗

(2) Derive the relationship between Relative molecular mass and Vapour density. ✗

(3) (a) Calculate the number of moles in ✗

(i) 27 gm of Al (ii) 1.51×10^{23} molecules of NH_4Cl

(b) Calculate the % of oxygen in $Al_2(SO_4)_3$.

(Atomic mass: Al-27, O-16, S-32)

(4) (a) Write the applications of Avogadro's law. ✗

(b) State "Avogadro's law.

(5) Classify the following molecules based on their atomicity and tabulate. ✗

Fluorine (F_2), Carbon dioxide (CO_2), Phosporous (P_4), Sulphur (S_8), Ammonia (NH_3), Sulphuric Acid (H_2SO_4), Methane (CH_4), Glucose ($C_6H_{12}O_6$), Carbon monoxide (Co), oxygen (O_2), Hydrogen (H_2,

(6) Book back Questions: IX Solve the problems; (1), (2), (3), (4) - ✗.

(7) Book back Qns: VIII ⇒ Hots Qns., VII – 2nd Qns.

8. Periodic Classification of Elements.

Important 2 Marks Questions:

(1) True? or False? (If false give the Correct Statement.)

a) Moseley's periodic table is based on atomic mass.

b) Ionic radius increases across the period from left to right.

c) An alloy is a heterogenous mixture of metals.

d)

(2) a) What is rust? give the equation for formation of rust?

b) State two conditions necessary for rusting of iron. ✗

(3) ~~write~~ write the important ores of a) Copper ✗

b) Aluminium. c) Iron with formula. (Any one Ans).

(4) Write the types and uses of iron. ✗

(5) Write the uses of a) Copper b) Aluminium.

(6) a) what is Alloys? b) write the reasons for Alloying?
c) write the types of Alloy? ✗

(7) a) State Modern periodic table.

b) Write any four features of Periods ~~(and)~~ and groups in periodic table.

(8.) Define: (i) Atomic Radius. (ii) Ionisation Energy.
(iii) Electronegativity. ✗ (Any one Concept may asked)

(9) Predict the nature of the bond in the following molecules. (i) NaCl (ii) NaBr (iii) NaI (iv) NaF (v) HCl (vi) NaH.

(10) Book back Questions: VI (1), (2)

(11) (a) What is Amalgam? Name the amalgam which is used for dental filling. -X.

II Important four, seven Marks Questions:

(1) Book back Questions: (1), (2) -X. → VII

(2) Explain Smelting process -X.

(3) Book back HOT Qns: VIII (1), (2), (3) -X.

(4) a) What is Corrosion?
b) What are the types of Corrosion?
c) Explain the Methods of preventing corrosion. -X.

(5) Tabulate the uses of Copper, Aluminium and Iron Alloys. -X.

(6) Write the Physical and chemical properties of metal.

(7) Explain the types of separation (or) Concentration of an ore?

Unit 9. Solutions.

I Important 2 Marks Questions:

(1) What is aqueous and Non-aqueous solutions? Give an examples. -½

(2) Give an example each. (i) gas in liquids (ii) Solid in liquid (iii) Solid in solid (iv) gas in gas. -½

(3) a) Define: Hydrated salts. -½
b) A hot Saturated solution of copper sulphate forms crystals as it cools. why?

(4) a) Define: Volume percentage. -½
b) The aquatic animals live more in cold region. why?

(5) True? or False? (If false give Correct the Statement)
a) In a solution, the component which is present in lesser amount is Called Solvent.
b) Sodium chloride is dissolved in water forms a Non-aqueous solution.
c) The molecular formula of green vitriol is $MgSO_4 \cdot 7H_2O$
d) Silica gel is one of example for Hygroscopic Substances.

(6) a) what happens when $MgSO_4 \cdot 7H_2O$ is heated? write the appropriate equation. -½
b) Define: Solubility

iii) Write the solubility's value of the following substances: (g/100 gm water)
a) Sodium chloride (b) Ammonia (c) Sodium Bromide
(d) Glucose.

11 important 4,7 Marks Questions:

(1) Write notes on) Saturated solution. (ii) Unsaturated solution (iii) Super saturated solution. ✓

(2) Write notes on various factor affecting solubility ✓

(3) a) In what way hygroscopic substances differ from deliquescents substances ✓
b). Give ~~etc~~ four examples for each hygroscopic and deliquescent substances.

(4) a) what happens when Copper Sulphate Penta hydrate salts are heated as well as cooled.? write the appropriate equation. ✓
b) Write any hydrated Salts Common Name, IUPAC Name and its Molecular formula.

(5) Please well practiced All Solved problems ✓
(Problem based on mass percentage / volume-volume percentage) ✓

(6) Book back Qns: VI - (5), (6)th Qns. } ✓

(7) Book back Qns: VII - (1), (2), (3) ✓