

# CHEMISTRY OUTLINE

S/N	Topic	Key Contents
1	Introduction to Chemistry	Definition, scope, branches, importance, laboratory safety
2	States of Matter	Solids, liquids, gases, kinetic theory, changes of state
3	Separation of Mixtures	Filtration, evaporation, distillation, chromatography, decantation
4	Particulate Nature of Matter	Atoms, molecules, ions, evidence of particles
5	Atomic Structure	Subatomic particles, atomic and mass numbers, isotopes
6	Periodic Table	Development, periods, groups, electronic configuration, trends
7	Symbols, Formulae & Equations	Chemical symbols, formula writing, equation balancing
8	Chemical Combination	Laws of combination, stoichiometry, mole concept
9	Gas Laws	Boyle's, Charles', pressure and combined gas laws
10	Acids, Bases & Salts	Properties, strength, pH scale, indicators, preparation of salts
11	Water	Sources, purification, hardness, treatment
12	Structure & Bonding	Ionic, covalent and metallic bonding
13	Carbon & Its Compounds	Allotropes, hydrocarbons, uses
14	Energy Changes	Exothermic and endothermic reactions, energy profiles
15	Chemical Reactions	Types, reversible and irreversible reactions
16	Rate of Reactions	Factors affecting rate, catalysts
17	Chemical Equilibrium	Dynamic equilibrium, Le Chatelier's principle
18	Redox Reactions	Oxidation, reduction, oxidation numbers
19	Electrolysis	Electrolytes, Faraday's laws, industrial uses
20	Organic Chemistry	Hydrocarbons, alcohols, acids, esters, polymers
21	Metals & Their Compounds	Reactivity series, extraction, corrosion
22	Non-Metals & Their Compounds	Hydrogen, oxygen, nitrogen, halogens
23	Environmental Chemistry	Pollution, greenhouse effect, ozone depletion
24	Qualitative & Quantitative Analysis	Cation/anion tests, flame tests, volumetric analysis