



ICSE · CLASS 10

Chemistry (Science Paper 2)

Official CISCE Chemistry curriculum covering Periodic Trends, Chemical Bonding, Acid-Base Chemistry, Analytical identification of metallic cations, Mole Concept stoichiometry, Electrolysis, Metallurgy, Inorganic Compound chemistry, and Organic synthesis.

Board: Council for the Indian School Certificate Examinations**Theory:** 80 Marks**Internal/Practical:** 20 Marks**Exam Duration:** 2 Hours

UNIT-WISE SYLLABUS & MARKS BREAKDOWN

UNIT	CHAPTERS & PRESCRIBED TOPICS	MARKS
Unit 1	Periodic Properties & Variations Periodic trends: Atomic size, metallic and non-metallic character, ionisation potential, electron affinity, electronegativity across Period 3 and Groups 1, 2, 16, 17	08
Unit 2	Chemical Bonding Electrovalent bonding (NaCl, MgCl ₂ , CaO); Covalent bonding (H ₂ , Cl ₂ , O ₂ , N ₂ , H ₂ O, CH ₄ , CCl ₄ , NH ₃); Coordinate bonding (Hydronium ion H ₃ O ⁺ , Ammonium ion NH ₄ ⁺); Differences in physical properties between electrovalent and covalent compounds	08
Unit 3	Study of Acids, Bases and Salts Definitions, self-ionisation of water, pH scale; Preparation of salts by simple displacement, neutralization, action of acid on carbonate/bicarbonate, precipitation; Types of salts: normal, acid, basic	08
Unit 4	Analytical Chemistry & Mole Concept Analytical chemistry: Action of Sodium Hydroxide and Ammonium Hydroxide on solutions of salts of Fe ²⁺ , Fe ³⁺ , Cu ²⁺ , Zn ²⁺ , Pb ²⁺ , Ca ²⁺ ; Action of alkalis on amphoteric metals (Al, Zn, Pb) and their oxides/hydroxides; Mole Concept: Gay-Lussac's Law of Combining Volumes, Avogadro's Law, relative atomic mass, relative molecular mass, mole definition, molar volume of gas at STP, percentage composition, empirical and molecular formula, stoichiometric calculations based on balanced chemical equations	12
Unit 5	Electrolysis Electrolytes and non-electrolytes, strong and weak electrolytes; Preferential discharge of ions at electrodes; Electrolysis of molten lead bromide, acidified water using platinum electrodes, aqueous copper sulphate using copper and platinum electrodes; Applications of electrolysis: electroplating (nickel, silver), electro-refining of blister copper	10
Unit 6	Metallurgy Occurrence of metals, concentration of ores, roasting, calcination, reduction; Extraction of Aluminium from bauxite ore by Baeyer's process and Hall-Heroult's electrolytic process; Alloys: Composition and uses of brass, bronze, duralumin, solder, stainless steel	08

UNIT	CHAPTERS & PRESCRIBED TOPICS	MARKS
Unit 7	Study of Specific Compounds Hydrogen Chloride: Laboratory preparation from NaCl and conc. H_2SO_4 , fountain experiment, acidic properties; Ammonia: Laboratory preparation from NH_4Cl and Ca(OH)_2 , Haber's process, fountain experiment, chemical reactions; Nitric Acid: Laboratory preparation from $\text{KNO}_3/\text{NaNO}_3$, Ostwald's process, oxidizing properties of dilute and conc. HNO_3 ; Sulphuric Acid: Contact process for H_2SO_4 , non-volatile acid nature, oxidizing and dehydrating agent	14
Unit 8	Organic Chemistry Introduction, catenation, tetravalency, classification of organic compounds; Homologous series and IUPAC nomenclature; Isomerism (chain and position); Alkanes: Methane and Ethane preparation and reactions (substitution); Alkenes: Ethene preparation and addition reactions; Alkynes: Ethyne preparation and addition reactions; Alcohols (Methanol & Ethanol) and Carboxylic Acids (Ethanoic acid) properties and reactions	12

INTERNAL / PRACTICAL ASSESSMENT SCHEME (20 MARKS)

EVALUATION COMPONENT	MARKS WEIGHTAGE
Internal Assessment in Practical Work Action of heat on substances, identification of gases, observation of colour changes, cation/anion analysis	20 Marks

RECOMMENDED REFERENCE LITERATURE

Prescribed Textbooks: Concise Chemistry ICSE Class 10 (Selina), Viraf Dalal Simplified ICSE Chemistry, Excellence Reaction Master Sheets

The Excellence Tuition Edge

Every unit in this curriculum is taught with structured conceptual lectures, followed by weekly speed-testing, detailed mistake analysis, and dedicated 1:1 doubt-clearing sessions to build board exam confidence.

Excellence Tuition Centres: Sarsuna (Opp. High School) · Joka · Chatterjee Para (Behala)

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