CHEMISTRY
10TH GRADE

Unit-wise Heading, Sub-heading, SLO & Teaching-Method Plan | Based on National Curriculum of Pakistan 2022-23 (NBF Model Textbook)

Unit no	CONTENT (Heading / Sub-heading)	SLO #	METHOD (How to Teach)	RESPONSE
Unit 1 HISTORY OF CHEMISTRY	**1.1 Ancient and Medieval Chemistry (Alchemy)**	01	Storytelling method	
	1.2 Contribution of Muslim Chemists (Jabir ibn Hayyan and others)	02	Storytelling method	
	1.3 Development of Modern Chemistry	03	Lecture method	
	1.4 Chemistry in the Modern World	04	Discussion method	
Unit 2 MATTER	**2.1 Review of States of Matter**	01	Lecture method	
	2.2 Gas Laws (Boyle's, Charles's, Avogadro's)	02	Demonstration method	
	2.3 Ideal Gas Equation	03	Problem solving method	
	2.4 Liquids: Vapour Pressure and Boiling Point	04	Lecture with diagram method	
	2.5 Solids: Types and Properties	05	Discussion method	
	2.6 Diffusion in Gases and Liquids	06	Demonstration method	
Unit 3 STOICHIOMETRY	**3.1 Review of Mole Concept**	01	Lecture method	
	3.2 Stoichiometric Calculations	02	Problem solving method	
	3.3 Concentration of Solutions	03	Problem solving method	
	3.4 Numerical Problems Based on Chemical Equations	04	Problem solving method	
Unit 4 ELECTROCHEMISTRY	**4.1 Oxidation-Reduction Reactions (review)**	01	Lecture method	
	4.2 Electrolysis and Its Applications	02	Demonstration with diagram method	
	4.3 Electrochemical Cells (Galvanic/Voltaic)	03	Demonstration with diagram method	
	4.4 Electrode Potential	04	Lecture method	
	4.5 Corrosion and Its Prevention	05	Case study method	
Unit 5 REACTION KINETICS	**5.1 Rate of Reaction (concept)**	01	Lecture method	
	5.2 Factors Affecting Rate of Reaction	02	Discussion method	
	5.3 Collision Theory	03	Lecture with diagram method	
	5.4 Catalysis	04	Demonstration method	
	5.5 Activation Energy	05	Lecture method	
Unit 6 SALTS	**6.1 Types of Salts (normal, acidic, basic, double, complex)**	01	Discussion method	
	6.2 Preparation of Salts	02	Demonstration method	
	6.3 Solubility of Salts	03	Hands-on/Practical method	
	6.4 Water of Crystallization	04	Demonstration method	

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	6.5 Uses of Common Salts	05	Discussion method	
Unit 7 NITROGEN, SULPHUR AND METALS	**7.1 Nitrogen: Occurrence and Properties**	01	Lecture method	
	7.2 Manufacture and Uses of Ammonia	02	Case study method	
	7.3 Sulphur: Occurrence and Properties	03	Lecture method	
	7.4 Manufacture and Uses of Sulphuric Acid	04	Case study method	
	7.5 Metals: General Properties	05	Discussion method	
	7.6 Extraction and Uses of Common Metals	06	Case study method	
Unit 8 ORGANIC CHEMISTRY	**8.1 Characteristics of Organic Compounds (review)**	01	Lecture method	
	8.2 Functional Groups	02	Lecture with diagram method	
	8.3 Homologous Series	03	Discussion method	
	8.4 IUPAC Nomenclature	04	Problem solving method	
	8.5 Isomerism	05	Compare & contrast method	
	8.6 Types of Organic Reactions	06	Discussion method	
Unit 9 HYDROCARBONS	**9.1 Alkanes: Structure, Preparation and Reactions**	01	Lecture with diagram method	
	9.2 Alkenes: Structure, Preparation and Reactions	02	Lecture with diagram method	
	9.3 Alkynes: Structure, Preparation and Reactions	03	Lecture with diagram method	
	9.4 Aromatic Hydrocarbons (Benzene)	04	Demonstration with diagram method	
	9.5 Sources of Hydrocarbons (Petroleum, Natural Gas)	05	Storytelling method	
Unit 10 HYDROXY COMPOUNDS	**10.1 Alcohols: Classification and Properties**	01	Lecture method	
	10.2 Preparation and Reactions of Alcohols	02	Demonstration method	
	10.3 Phenols: Structure and Properties	03	Discussion method	
	10.4 Uses of Alcohols and Phenols	04	Case study method	
Unit 11 CARBOXYLIC COMPOUNDS	**11.1 Carboxylic Acids: Structure and Properties**	01	Lecture method	
	11.2 Preparation and Reactions of Carboxylic Acids	02	Demonstration method	
	11.3 Esters: Formation and Properties	03	Demonstration method	
	11.4 Uses of Carboxylic Acids and Esters	04	Case study method	
Unit 12 POLYMERS	**12.1 Concept of Polymerization**	01	Lecture method	
	12.2 Natural Polymers	02	Discussion method	
	12.3 Synthetic Polymers (Plastics, Fibres)	03	Discussion method	
	12.4 Addition and Condensation Polymerization	04	Compare & contrast method	
	12.5 Environmental Impact of Polymers	05	Debate method	

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Unit 13 BIOCHEMISTRY	**13.1 Carbohydrates**	01	Lecture method	
	13.2 Proteins	02	Lecture method	
	13.3 Lipids	03	Discussion method	
	13.4 Nucleic Acids	04	Demonstration with diagram method	
	13.5 Enzymes	05	Discussion method	
	13.6 Vitamins and Hormones (basic concept)	06	Lecture method	