

KOTHARI INTERNATIONAL SCHOOL

GRADE - 12 ANNUAL ACADEMIC PLAN

SUBJECT: CHEMISTRY(043) SESSION: 2022-23

NAME OF THE SUB TEACHER : MONIKA MAURYA

+ THEORY –70 MARKS(3 HOURS)
+ PRACTICAL – 30 MARKS(3 HOURS)

MONTH	UNIT/S	CONTENT(SUB-TOPICS)
MARCH (9 DAYS)	Unit X: Haloalkanes and Haloarenes	Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).
APRIL (18 DAYS)	Unit X: Haloalkanes and Haloarenes(to be continued...) Unit XI: Alcohols, Phenols and Ethers	Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT. Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. Phenols: Nomenclature, methods of preparation,

		<p>physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.</p> <p>Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.</p>
MAY (13 DAYS)	Unit XII: Aldehydes, Ketones and Carboxylic Acids	<p>Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.</p> <p>Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.</p> <ul style="list-style-type: none"> ✚ AIL(Art Integrated Learning) assignment will be given as summer vacation homework. ✚ Term-1 Practical write up of all experiments and Investigatory project file instructions will be given as summer vacation homework
APRIL -MAY UNIT TEST – 1 (COMMENCING 29 APRIL & ENDING 20 MAY 2022)	Mock test and Revision of Unit test-1 syllabus	Syllabus for Unit Test-1 1. Unit X: Haloalkanes and Haloarenes 2. Unit XI: Alcohols, Phenols and Ethers
JUNE	SUMMER VACATION	

<p>UNIT TEST 2</p>	<p>Unit IV: Chemical Kinetics</p>	<p>pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.</p> <p>Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions)</p>
<p>SEPTEMBER (22 DAYS)</p> <p>HALF YEARLY EXAMINATION COMMENCES 16 SEPTEMBER & ENDS 28 SEPTEMBER 2022</p>	<p>Unit IV: Chemical Kinetics(<i>to be continued...</i>)</p> <p>REVISION OF HALF YEARLY EXAMINATION</p>	<p>Concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.</p> <p>SYLLABUS FOR HALF YEARLY EXAMINATION IS 75%</p>
<p>OCTOBER (13 DAYS)</p>	<p>Unit III: Electrochemistry</p>	<p>Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law.</p>
<p>NOVEMBER (21 DAYS)</p>	<p>Unit III: Electrochemistry(<i>to be continued...</i>)</p>	<p>Electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead</p>

<p>COMPLETION OF PROJECT</p> <p>PRE-BOARD EXAMINATION-1 COMMENCES ON 18 NOVEMBER AND ENDS ON 30 NOVEMBER</p>	<p>Unit IX: Coordination Compounds</p>	<p>accumulator, fuel cells, corrosion.</p> <p>Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, the importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).</p> <p>SYLLABUS FOR PRE-BOARD EXAMINATION- 1 IS 85%</p>
<p>DECEMBER (21 DAYS)</p> <p>PRE-BOARD EXAMINATION-2 COMMENCES ON 16 DECEMBER AND ENDS ON 30 DECEMBER</p>	<p>Unit VIII: d and f Block Elements</p>	<p>General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.</p> <p>Lanthanoids – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.</p> <p>Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.</p>

		SYLLABUS FOR PRE-BOARD EXAMINATION- 2 IS 100%
JANUARY (15 DAYS)	PRACTICE TESTS BOARD PRACTICALS COMMENCE	
FEBRUARY (20 DAYS)	BOARD PRACTICALS	
AWAIT CBSE ANNOUNCEMENT OF BOARD EXAMINATION DATES		

*****PRACTICAL / PROJECT WORK WILL RUN SIMULTANEOUSLY WITH ACADEMIC TRANSACTION.**