

**ARMY PUBLIC SCHOOL, MUMBAI (2019-2020)**

**STANDARD CURRICULUM**

**CLASS: XII**

**SUB: CHEMISTRY**

<b><u>M</u> <u>O</u> <u>N</u> <u>T</u> <u>H</u></b>	<b><u>NAME OF THE LESSON</u></b>	<b><u>METHODOLOGY</u></b>	<b><u>VALUES AND SKILLS / CORE VALUES</u></b>	<b><u>LEARNING OUTCOMES</u></b>
<b>A P R I L</b>	<b>Solutions</b>	i)Diagrams ii)Interaction iii)Numericals iv)Explanation & Discussion v)Activity-- i)To calculate normality and strength of Mohr salt using M/20 KMnO <sub>4</sub> . ii)To calculate normality and strength of Oxalic acid using M/20 KMnO <sub>4</sub> .	<b>Values:</b> Innovative mindset, Global outlook  <b>Skills:</b> Creative skills and spirit of enquiry.	<b>1.</b> The students will be Able to- <ul style="list-style-type: none"><li>• Describe the formation of different types of solutions and their concentrations</li><li>• Explain deviations of real solutions</li><li>• Explain colligative properties and their correlation with molar mass of solute</li><li>• Abnormal colligative properties of some solutes</li></ul>
	<b>Electrochemistry</b>	i)Discussion ii) diagrams iii) Numericals iv) Activity--- To find out EMF of Zn – Cu cell.	<b>Values:</b> Dependability and Responsibility  <b>Skills:</b> Scientific skill, Critical and Logical Thinking	The students will be able to- <ul style="list-style-type: none"><li>• Describe an electrochemical cell and differentiate between galvanic and electrolytic cell</li><li>• Describe the construction of some primary and secondary batteries &amp; fuel cells</li></ul>
	<b>Co-Ordination compounds</b>	I)Explanation & Discussion ii) Isomer Diagrams iii) TeachNext Module related to CFT &VBT IV) Activity-- Project on preparation of different co-ordination compounds used as poster paints.	<b>Values:</b> Honesty and Integrity, Self confidence  <b>Skills:</b> Creative skill, Logical Thinking, Decision making	The students will be able to learn- <ul style="list-style-type: none"><li>• The rules of nomenclature of coordination compounds</li><li>• Understand the nature of bonding in coordination compounds</li></ul>

			Self awareness	<ul style="list-style-type: none"> <li>Learn stability of coordination compounds</li> <li>Appreciate the importance of coordination compounds in our day to day life</li> </ul>
M A Y  J U N E	<b>Chemical Kinetics</b>	i)Explanation & Discussion ii)Numericals iii)Activity-- To study effect of concentration on rate of reaction between Sodium Thiosulphate and temperature.	<b>Values:</b> Togetherness, Positive attitude <b>Skills:</b> Analytical skill and Logical presentation	The students will be Able to- <ul style="list-style-type: none"> <li>Define rate of reaction</li> <li>Distinguish between elementary and complex reactions</li> <li>Describe collision theory</li> </ul>
	<b>Haloalkanes and Haloarenes</b>	i)Discussion ii) Interaction iii)Activity--- To identify different halogens in the given organic compound with the help of chemical tests.	<b>Values:</b> Problem solving, Loyalty <b>Skills:</b> Sensitivity towards environment, Critical and Logical thinking	The students will be able to- <ul style="list-style-type: none"> <li>Name haloalkanes and haloarenes</li> <li>Correlate their structures</li> <li>Use stereochemistry as a tool for understanding reaction mechanism</li> </ul>
	<b>Alcohols, Phenols and Ethers</b>	i)Explanation ii) Activity-- To identify whether given compound is alcohol or phenol with the help of chemical tests.	<b>Values:</b> Caring and sharing, Capability, Challenge <b>Skills:</b> Decision making, Togetherness	The students will be able to- <ul style="list-style-type: none"> <li>Name alcohols, phenols and ethers</li> <li>Discuss reactions involved in preparation and chemical properties</li> <li>Differentiate between different compounds</li> </ul>
	<b>Polymers</b>	i)Explanation and Discussion ii) Comparison table of polymers iii) Activity-- Project on preparation of Biodegradable	<b>Values:</b> Determination, Challenge, Unity <b>Skills:</b> Creativity, Responsibility, Care for Environment Team work and Environmental awareness	The students will be able to- <ul style="list-style-type: none"> <li>Appreciate the importance of polymers in daily life</li> <li>Distinguish</li> </ul>

		polymer		between various classes of polymers
<b>J U L Y</b>	<b>Chemistry in Everyday Life</b>	i)Interaction ii)Discussion iii)Activity-- Project on preparation of Soap and check its foaming capacity in hard and soft water.	<b>Values:</b> Right choices, Optimism, Vision <b>Skills:</b> Analytical skills, Decision making, Care for the environment  Environmental Awareness	The students will be able to- <ul style="list-style-type: none"> <li>• Visualise the importance of Chemistry in daily life</li> <li>• Describe the basis of classification of drugs</li> <li>• To know about artificial sweetening agents and food preservatives</li> <li>• Discuss the chemistry of cleansing agents</li> </ul>
<b>A U G U S T</b>	<b>Aldehydes, Ketones and Carboxylic acids</b>	i)Explanation ii)Discussion iii) Activity— To check the presence of Aldehyde, Ketone or Carboxylic acid in the given organic compound with the help of chemical tests.	<b>Values:</b> Decisiveness, Challenge <b>Skills:</b> Reasoning, Logical Thinking	The students will be able to- <ul style="list-style-type: none"> <li>• Write names and structures of different compounds</li> <li>• Describe the preparation and reactions</li> <li>• To identify different compounds by chemical tests</li> </ul>
	<b>General Principles and Isolation of Elements</b>	i)Teach Next Module for extraction of metals ii)Diagram-- Flow Sheet diagram for Metallurgy.	<b>Values:</b> Integrity, Dependence, Freedom <b>Skills:</b> Awareness, Decision making, Organisational skills	The students will be able to- <ul style="list-style-type: none"> <li>• Understand the principles of extraction</li> <li>• Apply thermodynamic concept for extraction</li> </ul>
	<b>Amines</b>	i)Explanation & discussion ii)Activity--- To test presence of amine in the given organic compound with the help of chemical tests.	<b>Values:</b> Independent, Caring, Reliability <b>Skills:</b> Critical Thinking	The students will be able to- <ul style="list-style-type: none"> <li>• Classify and name the amines</li> <li>• Describe and explain preparation and properties</li> <li>• Distinguish between 1°, 2° &amp; 3° amines</li> </ul>

S E P T E M B E R	<b>Biomolecules</b>	i)Explanation & discussion ii) Diagrams iii)Activity--- To carry out test for carbohydrates in the given Food sample.	<b>Values:</b> Dependability, Positive attitude, Accountability <b>Skills:</b> Teamwork, Decision making Discipline and Diligence	The students will be able to- <ul style="list-style-type: none"> <li>Define and classify different types of biomolecules on the basis of their structure</li> <li>Appreciate role of biomolecules in biosystem</li> </ul>
O C T O B E R	<b>Biomolecules</b>  <b>d and f Block Elements</b>  <b>Surface Chemistry</b>	To analyse given Food samples for presence of Carbohydrates, Fats and Proteins.  i)Explanation and discussion ii) Comparative study- Comparison of characteristics of 4f and 5f elements  i)Lecture method ii) Demonstration iii)Activity---  To prepare sol of- Fe(OH) <sub>3</sub> Starch Egg albumin	<b>Values:</b> Innovative mindset, Global outlook, Integrity <b>Skills:</b> Scientific Temperament, Knowledge, spirit of enquiry.  <b>Values:</b> Commitment, Sincerity <b>Skills:</b> Curiosity, Discipline, Teamwork  <b>Values:</b> Selflessness,Reliability <b>Skills:</b> Adaptability, Teamwork  Diversity and Togetherness	<ul style="list-style-type: none"> <li>Explain differences between RNA and DNA</li> </ul> <p>The students will be able to-</p> <ul style="list-style-type: none"> <li>Learn the positions of d and f block elements in the periodic table</li> <li>Know characteristics of these elements</li> <li>Describe preparation, properties and structures of KMnO<sub>4</sub> &amp; K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub></li> </ul> <p>The students will be able to –</p> <ul style="list-style-type: none"> <li>Describe and classify adsorption</li> <li>Appreciate role of catalysts in the industry</li> <li>Describe colloids and their uses</li> </ul>
N O V E	<b>Some p- Block Elements</b>	i)Explanation and discussion ii)Diagram	<b>Values:</b> Comparison, Recognition <b>Skills:</b> Logical Thinking, Curiosity	The students will be able to- <ul style="list-style-type: none"> <li>Describe the variation in</li> </ul>

<b>M B E R</b>		iii)Comparative study of compounds of different p- block elements		properties of group 16,17,18 elements <ul style="list-style-type: none"><li>• Know chemistry of Interhalogens and Noble gases</li><li>• Enumerate the uses of noble gases</li><li>• Explain compounds of these elements.</li></ul>
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