

**TELANGANA STATE BOARD OF INTERMEDIATE EDUCATION: HYDERABAD**

**ANNUAL ACADEMIC PLAN 2023-24**

**CHEMISTRY**

**II YEAR**

<b>Month &amp; No. of working days/ No. of periods</b>	<b>Chapter and Topics to be covered /Assignments / Unit Tests / Examinations / EAMCET classes to be conducted</b>	<b>No. of periods allotted for each topic</b>
<b>June 24</b>	Syllabus dictation and discussion of IPE question paper – weightage of marks to each chapter	<b>01</b>
	<b>1. SOLID STATE</b>	
	1.1 General Characteristics of Solid State	
	1.2 Amorphous and Crystalline Solids	
	1.3 Classification of Crystalline Solids	
	1.4 Probing the structure of solids: X-ray crystallography	
	1.5 Crystal Lattices and Unit Cells	<b>11</b>
	1.6 Number of Atoms in a Unit Cell	
	1.7 Close Packed Structures	
	1.8 Packing Efficiency	
	1.9 Calculations Involving Unit Cell Dimensions	
	1.10 Imperfections in Solids	
	1.11 Electrical Properties	
1.12 Magnetic Properties		
<b>2. SOLUTIONS</b>		
2.1 Types of Solutions		
2.2 Expressing Concentration of Solutions	<b>10</b>	
2.3 Solubility		
2.4 Vapour Pressure of Liquid Solutions		
2.5 Ideal and Non-ideal Solution		
	<b>ASSIGNMENT-I</b>	<b>01</b>
	<b>EAMCET</b>	<b>01</b>
<b>July 23</b>	2.6 Colligative Properties and Determination of Molar Mass	<b>04</b>
	2.7 Abnormal Molar Masses	
	<b>3. ELECTROCHEMISTRY AND CHEMICAL KINETICS</b>	<b>10</b>
	3.1 Electrochemical Cells	
	3.2 Galvanic Cells	
	3.3 Nernst Equation	
	3.4 Conductance of Electrolytic Solutions	
3.5 Electrolytic Cells and Electrolysis		

	<p><b>PRACTICALS : A.Surface Chemistry</b></p> <p>(a) Preparation of one lyophilic and onelyophobsol (b) Study of the role of emulsifying agents in stabilizing the emulsions of different oils</p> <p>3.6 Batteries 3.7 Fuel Cells 3.8 Corrosion</p> <p><b>CHEMICAL KINETICS</b></p> <p>3.9 Rate of a Chemical Reaction 3.10 Factors Influencing Rate of a Reaction</p> <p><b>ASSIGNMENT-II</b> <b>UNIT TEST-I</b> <b>EAMCET</b></p>	<p><b>03</b></p> <p><b>03</b></p> <p><b>01</b> <b>01</b> <b>01</b></p>
August 25	<p>3.11 Integrated Rate Equations 3.12 Pseudo First Order Reaction 3.13 Temperature Dependence of the Rate of a Reaction 3.14 Collision Theory of Chemical Reaction Rates</p> <p><b>4. SURFACE CHEMISTRY</b></p> <p>4.1 Adsorption 4.2 Catalysis 4.3 Colloids 4.4 Classification of Colloids 4.5 Emulsions 4.6 Colloids Around Us</p> <p><b>PRACTICALS: B. Chemical Kinetics</b> <b>C. Solutions</b></p> <p><b>5. GENERAL PRINCIPLES OF METALLURGY</b></p> <p>5.1 Occurance of Metals 5.2 Concentration of Ores 5.3 Extraction of Crude Metal from Concentrated Ore 5.4 Thermodynamic Principles of Metallurgy 5.5 Electrochemical Principles of Metallurgy 5.6 Oxidation and Reduction 5.7 Refining of Crude Metal 5.8 Uses of Aluminium, Copper, Zinc and Iron</p> <p><b>ASSIGNMENT-III</b> <b>UNIT TEST-II</b> <b>EAMCET</b></p>	<p><b>06</b></p> <p><b>08</b></p> <p><b>08</b></p> <p><b>01</b> <b>01</b> <b>01</b></p>
September 22	<p><b>6. p-BLOCK ELEMENTS GROUP-15 ELEMENTS</b></p> <p>6.1 Introduction 6.2 Dinitrogen 6.3 Ammonia 6.4 Oxides of nitrogen</p>	<p><b>06</b></p>

	<p>6.5 Nitric acid</p> <p>6.6 Phosphorous-allotropic forms</p> <p>6.7 Phosphine</p> <p>6.8 Phosphorous halides</p> <p>6.9 Oxoacids of phosphorous</p> <p><b>GROUP-16 ELEMENTS</b></p> <p>6.10 Introduction</p> <p>6.11 Dioxygen</p> <p>6.12 Simple Oxides</p> <p>6.13 Ozone</p> <p>6.14 Sulphur-Allotropic forms</p> <p>6.15 Sulphur dioxide</p> <p>6.16 Oxoacids of Sulphur</p> <p>6.17 Sulphuric Acid</p> <p><b>GROUP-17 ELEMENTS</b></p> <p>6.18 Introduction</p> <p>6.19 Chlorine</p> <p>6.20 Hydrogen Chloride</p> <p>6.21 Oxoacids of Halogens</p> <p>6.22 Interhalogen Compounds</p> <p><b>ASSIGNMENT-IV</b> <b>UNIT TEST-III</b> <b>EAMCET</b></p>	<p><b>06</b></p> <p><b>07</b></p> <p><b>01</b> <b>01</b> <b>01</b></p>
<p><b>October</b> <b>18</b></p>	<p><b>GROUP-18 ELEMENTS</b></p> <p>6.23 Introduction- Occurance, Electronic configuration Ionisation Enthalpy, Atomic radii, Electron Gain Enthalpy Physical and Chemical properties</p> <p><b>PRACTICALS :</b> <b>D. Electrochemistry E. Chromatography</b> <b>F. Preparation of Inorganic Compounds</b></p> <p><b>7. d AND f BLOCK ELEMENTS &amp; COORDINATION COMPOUNDS</b></p> <p>7.1 Position in the Periodic Table</p> <p>7.2 Electronic Configuration</p> <p>7.3 General Properties of Transition Elements (d-Block)</p> <p>7.4 Some Important Compounds of Transition Elements</p> <p>7.5 Inner Transition Elements(f-Block)</p> <p>7.6 Actinoids</p> <p>7.7 Some Applications of d and f Block Elements</p> <p>7.8 Werner's Theory of Coordination Compounds</p> <p>7.9 Definitions of Some Terms used in Coordination Compounds</p>	<p><b>04</b></p> <p><b>05</b></p> <p><b>07</b></p>



	<p><b>11. HALO ALKANES AND HALOARENES</b></p> <p>11.1 Classification  11.2 Nature of C-X bond  11.3 Methods of Preparation  11.4 Physical Properties  11.5 Chemical Reactions  11.6 Polyhalogen Compounds</p> <p><b>12. ORGANIC COMPOUNDS CONTAINING C, H AND O (Alcohols, Phenols, Ethers, Aldehydes)</b></p> <p><b>Alcohols, Phenols, Ethers</b></p> <p>12.1 Classification -Alcohols, Phenols and Ethers  12.2 Nomenclature- Alcohols, Phenols and Ethers  12.3 Structures of Hydroxy and Ether Functional Groups</p> <p style="text-align: center;"><b>ASSIGNMENT-VI</b></p> <p style="text-align: center;"><b>UNIT TEST-IV</b></p> <p style="text-align: center;"><b>EAMCET</b></p>	<p><b>10</b></p> <p><b>04</b></p> <p><b>01</b></p> <p><b>01</b></p> <p><b>01</b></p>
<p><b>January</b> <b>23</b></p>	<p>12.4 Alcohols and Phenols  12.5 Physical Properties  12.6 Chemical Reactions  12.7 Some Commercially Important Alcohols  12.8 Ethers</p> <p style="text-align: center;"><b>Aldehydes and Ketones</b></p> <p>12.9 Nomenclature and Structure of Carbonyl Group  12.10 Preparation of Aldehydes and ketones.  12.11 Physical Properties  12.12 Chemical Reactions  12.13 Uses of Aldehydes and Ketones</p> <p style="text-align: center;"><b>Carboxylic Acids</b></p> <p>12.14 Nomenclature and Structure of Carboxyl Group  12.15 Methods of Preparation of Carboxylic Acids  12.16 Physical Properties  12.17 Chemical Reactions  12.18 Uses of Carboxylic Acids</p> <p><b>PRACTICALS : J.</b> Determination of concentration/molarity of <math>\text{KMnO}_4</math> solution by titrating it against a standard solution of:  <b>(i)</b> Oxalic acid,  <b>(ii)</b> Ferrous ammonium sulphate</p>	<p><b>10</b></p>

	<p><b>PRACTICALS : K.</b> Qualitative analysis Determination of one cation and one anion in a given salt containing anions and cations studied in I year (Salts : 1 to 6)</p> <p><b>13. ORGANIC COMPOUNDS CONTAINING NITROGEN</b></p> <p><b>Amines</b></p> <p>13.1 Structure of Amines</p> <p>13.2 Classification</p> <p>13.3 Nomenclature</p> <p>13.4 Preparation of Amines</p> <p>13.5 Physical Properties</p> <p>13.6 Chemical Reactions</p> <p><b>Diazonium salts</b></p> <p>13.7 Methods of Preparation of Diazonium Salts</p> <p>13.8 Physical Properties</p> <p>13.9 Chemical Reactions</p> <p>13.10 Importance of Diazonium Salts in Synthesis of Aromatic Compounds</p> <p><b>Cyanides and Isocyanides</b></p> <p>13.11 Structure of cyanides and isocyanides</p> <p>13.12 Preparation</p> <p><b>EAMCET</b></p> <p><b>SANKRANTHI HOLIDAYS</b> <b>FROM 13-01-2024 TO 16-01-2024</b></p> <p><b>PRACTICALS : K.</b> Qualitative analysis Determination of one cation and one anion in a given salt containing anions and cations studied in I year (Salts : 7 to 12)</p> <p><b>PRE-FINAL EXAMINATIONS</b> <b>FROM 22-01-2024 TO 29-01-2024</b></p>	<p><b>03</b></p> <p><b>03</b></p> <p><b>01</b></p> <p><b>06</b></p>
February 23	<p><b>PROJECT REVISION</b></p> <p><b>I.P.E. PRACTICALS 2024</b></p>	
March 22	<p><b>I.P.E. THEORY EXAMINATIONS</b> <b>1<sup>ST</sup> WEEK OF MARCH 2024</b> <b>LAST WORKING DAY: 31.03.2024</b></p>	

	<p style="text-align: center;"><b>SUMMER VACATION</b> <b>FROM 01-04-2024 TO 31-05-2024</b> <b>ADVANCED SUPPLEMENTARY EXAMINATIONS</b> <b>(IPASE)</b> <b>Last week of May 2024</b> <b>Re-Opening of Colleges : 01-06-2024</b></p>	
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