

TELANGANA STATE BOARD OF INTERMEDIATE EDUCATION, HYDERABAD

ACADEMIC YEAR 2020-2021

30% DELETED CONTENT IN VIEW OF COVID-19 PANDEMIC

INTERMEDIATE 1<sup>st</sup> YEAR CHEMISTRY SYLLABUS

1.ATOMIC STRUCTURE : Discovery of Election, proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations 1.6 Quantum mechanical model of an atom - shapes of atomic orbitals
2.CLASSIFICATION OF ELEMENTS AND PERIODICITY OF PROPERTIES 2.1 Need to classify elements 2.2 Genesis of periodic classification.
3. CHEMICAL BONDING AND MOLECULAR STRUCTURE . -----Nil-----
4. STATES OF MATTER: GASES AND LIQUIDS. 4.10 Distribution of molecular speeds – rms, average and most probable speeds-kinetic energy of gas molecules 4.12 Liquefaction of gases 4.13 Liquid state – properties of liquids in terms of intermolecular interactions- vapour pressure, surface tension and viscosity (Qualitative idea only. No mathematical derivation)
5. STOICHIOMETRY 5.2 Laws of chemical combinations, Gay Lussac's law of gaseous volumes, Dalton's atomic theory, Avogadro law 5.6 methods of expressing concentration of solutions 5.11 redox reactions in tritrimetry.(Applications of redox reactions)
6.THERMODYNAMICS 6.8.(heat capacity and specific heat capacity, criteria for equilibrium)
7.CHEMICAL EQUILIBRIUM AND ACIDS BASES 7.7 Relationship between equilibrium constant K, reaction quotient Q and Gibbs energy G 7.11 (hydrolysis of salts) Ionisation of acids and bases 7.12 (Henderson equation)
8.HYDROGEN AND ITS COMPOUNDS 8.3 Preparation of dihydrogen 8.4 Properties of dihydrogen 8.7 Hydrogen peroxide preparation and properties, structure and use)
9. S- BLOCK ELEMENTS: ALKALI AND ALKALINE EARTH METALS 9.4 Some important compounds of sodium:sodium carbonate; sodium chloride; sodium hydroxide; sodium hydrogen carbonate 9.5 Biological importance of sodium and potassium Group 2 elements 9.9 Some important compounds of calcium 9.10 Biological importance of magnesium and Calcium.
10.P- BLOCK ELEMENTS:GROUP-13 BORON FAMILY 10.3 Important compounds of boron – borax, orthoboric acid, diboran 10.4 Uses of boron, aluminium and their compound.
11. P - BLOCK ELEMENTS: GROUP-14 CARBON FAMILY 11.5. Some important compounds of carbon and silicon, carbon monoxide, carbon dioxide, silicon dioxide, silicones, silicates and zeolites.
12. ENVIRONMENTAL CHEMISTRY <i>ENTIRE CHAPTER DETETED</i>
13.ORGANIC CHEMISTRY- SOME BASIC PRINCIPLESAND TECHNIQUES HYDROCARBONS 13.8 Methods of purification of organic compounds 13.9 Qualitative elemental analysis of organic compounds 13.10 Quantitative elemental analysis of organic compounds. <ul style="list-style-type: none"><li>• Free radical mechanism of halogenations, combustion and pyrolysis</li></ul>

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INTERMEDIATE CHEMISTRY PRACTICAL SYLLABUS

- b. Preparation of one Lyophilic and one lyophobic sol  
Lyophilic sol – starch, egg albumin and gum  
lyophobic sol – aluminium hydroxide, ferric hydroxide, arsenous sulphide.
- c. Chromatography
- i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R<sub>f</sub> values.
- ii) Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in R<sub>f</sub> values to be provided).

