

Competency Statements - Standard XI

Area/ Unit/ Lesson	After studying the contents in Textbook students.....
<i>General chemistry</i>	<ul style="list-style-type: none"> • Understand the SI unit of important fundamental scientific quantities. • Explain various fundamental laws of chemical combination, which are applied in day-to-day life. • Relate basic concepts of number of moles and molecules. • Differentiate between quantitative and qualitative analysis. • Develop accuracy, precision, concentration ability in taking accurate reading. • Calculate empirical formula and molecular formula of compounds. • Obtain information about different techniques to purify substance as well as separation of miscible solids and liquids. • Gain the information about various theories, principles, put up by eminent Scientists leading to atomic structure. • Classify elements isotopes, isobars and isotones. • Understand the dual nature of electron. • Application of concept of quantum number in writing electronic configuration of various elements.
<i>Inorganic chemistry</i>	<ul style="list-style-type: none"> • Inculcate social and scientific awareness by gaining knowledge of oxidation-reduction concept. • Evaluate oxidation number of elements and balance the redox reaction by different methods. • Categorize oxidizing and reducing agents with their applications. • Classify elements based on electronic configuration. • Understand co-relation between the various properties like atomic size, valency, oxidation state, ionization enthalpy and electronegativity in a group and in a period. • Recognize isoelectronic species. • Compare the trends in physical and chemical properties in group I and group II. Understand the diagonal relationship. • Gain the knowledge of hydrogen from periodic table. • Develop interest in systematic study of elements present in Group 13, Group 14 and group 15. • Learn anomalous behaviors of boron, carbon and nitrogen . • Draw the structures of some compounds of boron, carbon and nitrogen. • Elaborate information about various theories to explain nature of bonding in formation of molecules. • Inculcate skill to draw Lewis structure of molecules. • Assign the structures of various compounds with respect to geometry, bond angle and types of bond.

<p><i>Physical chemistry</i></p>	<ul style="list-style-type: none"> • Generate environmental awareness by compiling concepts of adsorption phenomenon. • Learn science behind the fact about colloids in day to day life. • Interpret nature, difference and relation of equilibrium constant. • Design the suitable conditions to get more yield of the desired product. • Differentiate nuclear reactions with ordinary chemical reaction. • Acquire knowledge of natural radioactivity and related terms like nuclear transmutation, nuclear fission, nuclear fusion. • Clarify the beneficial and harmful effects of radioactivity. • State the applications of radioactive elements like carbon dating, nuclear reactor, generation of electricity and medicinal uses. • Develop mathematical skills in finding radioactive decay constant, half life period and nuclear binding energy.
<p><i>Organic chemistry</i></p>	<ul style="list-style-type: none"> • Interpret the structure and functional group of organic compounds. • IUPAC nomenclature of organic compounds. • Understand the influence of electronic displacement and reactivity in organic molecules. • Draw the formulae of various isomers of organic compounds. • Illustrate different methods of preparation and chemical properties of hydrocarbons. • Infer importance of hydrocarbon. • Gain information of medicinal properties of some chemical compounds and chemistry behind food quality and cleansing action.

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