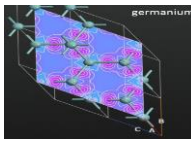


| NAME OF THE DEPARTMENT : SCIENCE: SYLLABUS BREAK UP 2021-22 -AJI | | | | | | | | | | | | | |
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| Name of the Subject Teacher:-SUNDARESH KUMAR | | | | | | | | | | | | | |
| Grade:-11 | | | | | | | | | | | | | |
| MONTH | WEEK | Unit/Section | No of Periods | Topic Break Down / for Periods/Learning objectives / progression | Learning Outcomes/ Skills acquired | Activities (Formative assessment tasks, projects, Visits) INCLUDING VIRTUAL LEARNING | Teaching Aids / Reference/ Resources | Competencies and Values | MY IDENTITY | Cross curricular link | Artificial Intelligence | Critical Thinking Questions- Descriptive | Critical Thinking Questions- Objective |
| April | 4 | Some basic concept of chemistry | 7 | Explain the three states of matter Significant figures State the laws of chemical combination Explain Dalton's Atomic theory Atomic and molecular masses | Students will be able to appreciate the role of chemistry in different spheres of life Students will be able to explain the characteristics of the three states of matter Students will use scientific notations and perform simple mathematical operations on numbers Students will be able to differentiate between precision and accuracy Students will be able to state the laws of chemical combination | 1) Students will be asked to write the important applications of chemistry in everyday life 2) Questions based on scientific notations | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Critical Thinking Creative Thinking Team Work INTEGRITY | Importance of chemistry in various fields in UAE | Cross curricular link with Math and Physics Scientific notation-Physics | Introduction to AI Awareness through Google story Speaker Link to install Story Speaker extension for Story Speaker: https://chrome.google.com/webstore/detail/story-speaker/ohfihfhhfknfdkjpdpobnegbkjip | 1. At STP, what will be the volume of molecules of 6.022 x 10 ²³ H ₂ ? 2. Vitamin C is essential for the prevention of scurvy. Combustion of 0.2000g of vitamin C gives 0.2998g of CO ₂ and 0.819g of H ₂ O. What is the empirical formula of vitamin C? 3. What volume of 10M HCl and 3M HCl should be mixed to obtain 1L of 6M HCl solution | 1. At STP 5.6 litres of a gas weigh 8 g. The vapour density of the gas is a) 32 b) 40 c) 16 d) 8 2. Which one of the following properties of an element is not variable a. Valency b. atomic weight c. Equivalent weight d. All of the above 3. To neutralise 100 ml of 0.1 M H ₂ SO ₄ , NaOH required is a. 40 g b. 80 g c. 0.4 g d. 0.8 g 4. The percentage of nitrogen in urea is about a. 46 b. 85 c. 18 d. 28 5. Mass of a mole of electron is a. 0.20 mg b. 0.02 mg c. 0.55 mg d. 1.00 mg |
| | | Some basic concept of chemistry | 7 | Describe the Mole concept and molar masses Calculate the Percentage composition Explain Stoichiometry and stoichiometric calculations. Explain the various ways to calculate the concentrations solutions | Students will be able to describe the terms- mole and molar mass Students will be able to determine empirical formula and molecular formula for a compound from the given experimental data | 3) Numerical on mole concept 4) Students will be asked to find the empirical formula and molecular formula | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Importance of mole concept in the research filed in UAE | Link with Math- Numerical On Molarity and molality | | 4. Calculate the weight of lime (CaO) obtained by heating 2000kg of 95% pure lime stone (CaCO ₃) 5. How much potassium chlorate should be heated to produce 2.24L of oxygen at NTP? | 6. Which one will have maximum number of water molecules? |
| | | Structure of Atom | 7 | Explain Thomson's model of atom Describe alpha particle scattering experiment Describe the limitations of Rutherford's model of atoms | Students will be able to explain Thomson's model of atom. Students will be able to describe Rutherford's model of Atom Students will be able to describe the limitations of Rutherford's model of atom | | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Importance of Structure of atom in research field | Structure of atom can be linked with Physics | 3 D Model of atom to get an idea about bond formation | 1. Calculate the frequency and energy of a photon of radiation having wavelength 3000 Å 2. What transition in the hydrogen spectrum would have the same wavelength as the Balmer transition, n = 4 to n = 2 of He+ spectrum? 3. Spectral lines are regarded as the finger prints of the elements. Why? | 1. The increasing order (lowest first) for the values of e/m (charge/mass) for (a) e, p, n, α (b) n, p, e, α (c) n, p, α, e (d) n, α, p, e 2. A gas absorbs a photon of 355 nm and emits at two wavelengths. If one of the emissions is at 680 nm, the other is at: (a) 518 nm (b) 1035 nm (c) 325 nm (d) 743 nm 3. Consider the ground state of Cr atom (Z = 24). The numbers of electrons with the azimuthal quantum numbers, l = 1 and 2 are, respectively: (a) 12 and 4 (b) 12 and 5 (c) 16 and 4 (d) 16 and 5 |
| | | Structure of Atom | 7 | Describe Bohr's model of Hydrogen atom Analyze Quantum mechanical model of atom Orbital's and quantum numbers Filling of orbital's in atom | Students will be able to describe Bohr's model of atom. Students will be able to analyze the important features of the quantum mechanical model of atom theory. Students will be able to state the De-Broglie relation and Heisenberg's principle. Students will be able to define atomic orbital in terms of quantum numbers. Students will be able to state Aufbau principle, Pauli principle and Hund's rule of maximum multiplicity Students will be able to write the electronic configuration of atom | Students will debate about the various rules which govern the distribution of electrons in atomic orbitals | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of electromagnetic spectrum in UAE | De- Broglie concept with Physics | 3 D Model of Bohr model of Atom | 1. Calculate the uncertainty in the momentum of an electron if it is confined to a linear region of length 1 x 10 ⁻¹⁰ m. 2. Na+ has designations are given to the orbitals having (i) n = 2, l = 1 (ii) n = 2, l = 0 (iii) n = 4, l = 3 (iv) n = 4, l = 2 (v) n = 4, l = 1? | 1. The excitation energy of a hydrogen atom from its ground state to its third excited state is (a) 12.75 eV (b) 0.85 eV (c) 10.2 eV (d) 12.1 eV 2. Number of unpaired electrons in N ²⁺ (a) 3 (b) 1 (c) 2 (d) 0 3. Maximum number of electrons in a subshell can be (a) 4l + 2 (b) 4l - 2 (c) 2n ² (d) 2l + 1 4. Which of the following statements in relation to the hydrogen atom is correct? (a) 3s orbital is lower in energy than 3p orbital (b) 3p orbital is lower in energy than 3d orbital (c) 3s and 3p orbitals are of lower energy than 3d orbital (d) 3s, 3p and 3d orbitals all have the same energy |
| May | 4 | Classification of elements and periodicity in properties | 7 | Describe the Genesis of periodic classification State Modern periodic law Analyze the electronic configuration of elements and the periodic table Explain the Periodic trends in properties of elements | Students will be able to state the periodic law and significance of atomic number and electronic configuration as the basis for periodic classification. Students will be able to recognize the periodic trends in physical and chemical properties. Students will be able to explain the term Ionisation enthalpy and electron gain enthalpy and their variation across the periods and groups in the periodic table | A chart work on variation of ionisation enthalpy, electron gain enthalpy along a period and group. A debate on arrangement of elements in the periodic table | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of elements in various fields in UAE | Atomic number and periodicity with Physics | AI Programme developed by Stanfor scientists recreated the periodic table in just a few hours | 1. Predict the position of the element in the periodic table satisfying the electronic configuration (n-1) d ¹ ns ² for n=4, 2. Na+ has higher value of ionization enthalpy than Ne, though both have same electronic configuration | a). Which of the following oxides is amphoteric in character? SnO ₂ (b) CO ₂ (c) SiO ₂ (d) CaO 2. Arrange S, O and Se in ascending order of electron affinity (a) Se < S < O (b) Se < O < S (c) S < O < Se (d) S < Se < O 3. Arrange S, O and Se in ascending order of electron affinity (a) Se < S < O (b) Se < O < S (c) S < O < Se (d) S < Se < O 4. Increasing order of electro negativity is (a) Bi < P < S < Cl (b) P < Bi < S < Cl (c) S < Bi < Cl (d) Cl < S < Bi < P 5. The number of elements in the 5th period of the periodic table is (a) 3 (b) 9 (c) 8 (d) 18 |
| | | Chemical Bonding | 7 | Describe Kossel-Lewis approach to chemical bonding Explain the various Bond parameters | Students will be able to understand Kossel-Lewis approach to chemical bonding Students will be able to explain octet rule and its limitations. Students will be able to write a note on various bond parameters | A debate on Octet rule and its limitations | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of bond parameters in UAE | Chemical Bond with Biology https://en.wikipedia.org/wiki/Chemical_bond_A_machine_learning_view_of_chemical_bond_given_below | 1. On which factor does dipole moment depend in case of polyatomic molecules 2. In SF ₄ molecule, the lp electrons occupies an equatorial position in the trigonal bipyramidal arrangement to an axial position. Give reason | 1. C-O bond length is minimum in (a) CO ₂ (b) CO ₃ ²⁻ (c) HCO ₃ ⁻ (d) CO 2. Molecules are held together in a crystal by (a) hydrogen bond (b) electrostatic attraction (c) Van der Waals' attraction (d) dipole-dipole attraction 3. Find the molecule with the maximum dipole moment (a) CH ₄ (b) NH ₃ (c) CO ₂ (d) NF ₃ 4. Find the pair with sp ² hybridisation of the central molecule (a) NH ₃ and NO ₂ ⁻ (b) BF ₃ and NH ₂ ⁻ (c) BF ₃ and NO ₂ ⁻ (d) NH ₂ ⁻ and H ₂ O | |
| | | Chemical Bonding | 7 | Describe the valence bond theory Analyze the Orbital overlap concept Explain the term Hybridization by taking various examples | Students will be able to explain briefly Valence bond theory. Differentiate between sigma bond and pi bond. Students will be able to explain the formation of many molecules on the basis of hybridisation | A task on order of stability of molecules using molecular orbital configuration concept | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of bond parameters in UAE | Hybridisation concept can be linked with Biology |  | 3. Why does H ₂ O have bent structure? | 5. The hybrid state of sulphur in SO ₂ molecule is : (a) sp ² (b) sp ³ (c) sp (d) sp ³ d 6. pi - pi bonding is present in which molecule (a) SO ₃ (b) CO ₃ ²⁻ (c) NO ₃ ⁻ (d) BO ₃ ³⁻ 7. The number of nodal planes present in s x s antibonding orbitals is (a) 1 (b) 2 (c) 0 (d) 3 8. Which one of the following does not have sp ² hybridised carbon? (a) Acetone (b) Acetic acid (c) Acetonitrile (d) Acetamide 9. Which of the following will have the lowest boiling point? (a) 2-Methylbutane (b) 2-Methylpropane (c) 2,2-Dimethylpropane (d) n-Pentane |
| Chemical Bonding | 7 | Explain the salient features of molecular orbital theory. Write the Molecular orbital configuration, magnetic behaviour, Hydrogen bonding | Students will be able to describe MO theory, Students will be able to write the Molecular orbital configuration. Students will be able to find the bond order and predict the magnetic behaviour | | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of bond parameters in UAE | Magnetic behaviour can be cross linked with Magnetism in physics | Make a three dimensional model of Graphite and diamond | 4. How would you attribute the structure of PH ₃ molecule using VSEPR model? 5. In H ₂ O, H ₂ S, H ₂ Se, H ₂ Te, the bond angle decreases though all have the same bent shape. Why? | 10. Which of the following will have the lowest boiling point? (a) 2-Methylbutane (b) 2-Methylpropane (c) 2,2-Dimethylpropane (d) n-Pentane 2. Among the following the maximum covalent character is shown by the compound (a) MgCl ₂ (b) FeCl ₂ (c) SnCl ₂ (d) AlCl ₃ 3. Among the following mixtures, dipole-dipole as the major interaction, is present in (a) benzene and ethanol (b) acetonitrile and acetone (c) KCl and water (d) benzene and carbon tetrachloride | | |
| | | States of matter | 7 | State the various gas laws. Explain the term Ideal gas. Derive ideal gas equation. State Dalton's law of partial pressure. Explain the postulates of Kinetic molecular theory of gases. Analyze the Behaviour of real gases and deviation of real gases from ideal behaviour | Students will be able to state gas laws and solve numerical based on it. Students will be able to define ideal gas equation. Students will be able to derive ideal gas equation from gas laws. Students will be able to describe the postulates of Kinetic molecular theory of gases. Students will be able to analyze the reason for the deviation of real gases from ideal behaviour. Students will be able to explain the behavior of real gases | Students will discuss the reasons for the deviation of real gases from ideal behaviour | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Importance of gas laws in the meteorological field in UAE | Kinetic molecular theory with Physics | 3 D- diagram showing the deviation of real gases from ideal behaviour | 1. At what temperature will the volume of a gas at 0°C double itself, pressure remaining constant? 2. 50 cm ³ of hydrogen gas enclosed in a vessel maintained under a pressure of 1400 Torr, is allowed to expand to 125 cm ³ under constant temperature conditions. What would be its pressure? | 1. Name the liquid with higher vapour pressure in the following pairs: (a) Alcohol, glycerine (b) Petrol, kerosene (c) mercury, water (a) Alcohol, Water, Petrol (b) Petrol, Water, Alcohol (c) Alcohol, Petrol, Water (d) None of these 2. A gas deviates from ideal behavior at a high pressure because its molecules: (a) Attract one another (b) Show the Tyndall Effect (c) Have kinetic energy (d) Are bound by covalent bonds 3. The value of universal gas constant R depends on (a) Temperature of Gas (b) Volume of Gas (c) Number of Moles of Gas (d) Units of Volume, Temperature and Pressure |

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| June | States of matter | 7 | Explain the term liquefaction of gases. Liquid state, Vapour pressure, surface tension, viscosity | Students will be able to describe the conditions required for liquefaction of gases Students will be able to differentiate between gaseous state and vapors Students will be able to explain properties of liquids in terms of intermolecular attractions. Students will be able to explain the term surface tension and viscosity and their variation with temperature | Students will debate on the properties of liquids | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Importance of gas laws in the matereological field in UAE | Surface tension and Viscosity with physics and Biology | Depict the surface tension and Viscosity three dimensionally | 3. Molecule A is twice as heavy as the molecule B, which of these has higher kinetic energy at any temperature? 4. What is the value of compressibility factor Z, of a gas when (i) pressure is low, (ii) pressure is high, (iii) at intermediate pressure. | 4. The theory which explains that gases consist of molecules, which are in rapid motion is known as: (a) Daltons Atomic Theory (b) Bohrs Theory (c) Rutherford's Atomic Theory (d) Kinetic Molecular Theory 5. The rates of diffusion of gases are inversely proportional to square root of their densities. This statement refers to: (a) Daltons Law (b) Graham's Law (c) Avogadro's Law (d) None of the Above 6. If helium and methane are allowed to diffuse out of the container under the similar conditions of temperature and pressure, then the ratio of rate of diffusion of helium to methane is: (a) 2 : 1 (b) 1 : 2 (c) 3 : 5 (d) 4 : 1 |
| | Redox reaction | 7 | Explain the classical concept of oxidation and reduction. Explain the electronic concept of oxidation and reduction. Describe the types of reactions such as combination reaction, displacement reactions and disproportionation reaction | Students will be able to understand redox reaction and balance ionic equation using half reaction method Students will be able to classify redox reaction into combination, decomposition, displacement, disproportionation, reactions | Debate on different types of redox reactions and make a write up | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of redox reactions in various fields in UAE | Application of redox reaction is electrochemical cell which can be cross linked with Physics | 3 D model of an Electrochemical cell | 1. The displacement reactions of Cl, Br, I using fluorine are not generally carried out in aqueous solution. Give reason. 2. An electrochemical cell is constituted by combining Al electrode (E ⁰ = - 1.66V) and Cu electrode (E ⁰ = + 0.34V). Which of these electrodes will work as cathode and why? | 1. What is known as Autooxidation? (a) Formation of H ₂ O by the oxidation of H ₂ O ₂ . (b) Formation of H ₂ O ₂ by the oxidation of H ₂ O. (c) Both (1) and (2) are true (d) None of the above 2. If equal volumes of 1M KMnO ₄ and 1M K ₂ C ₂ O ₇ solutions are allowed to oxidize Fe ²⁺ in acidic medium. The amount of iron oxidized will be: (a) More with KMnO ₂ (b) More with K ₂ C ₂ O ₇ (c) Equal with both oxidising agents (d) Cannot be determined 3. Which of the following processes does not involve oxidation of iron? (a) Formation of Fe(CO) ₅ from Fe. (b) Liberation of H ₂ from steam by iron at high temperature. (c) Rusting of iron sheets (d) Decolourisation of blue CuSO ₄ solution by iron. |
| | Redox reaction | 7 | Discuss the steps involved in Balancing of redox reaction. Describe the electrochemical cell and electrode potential | Students will be able to balance the chemical equations using half reaction method. Students will be able to write the working of electrochemical cell and able to write electrode reactions | Construct an electrochemical cell and find its potentials | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Applications of redox reactions in various fields in UAE | | | | 3. Can we store copper sulphate in an iron vessel? |
| July | SUMMER VACATION | | | | | | | | | | | |
| August | SUMMER VACATION | | | | | | | | | | | |
| September | Thermodynamics | 7 | Discuss the basic terms in thermodynamics. State the First law of thermodynamics. Describe the Internal energy change and pressure volume work. Entahply and the derivations | Students will be able to explain the basic terms in thermodynamics. Students will be able to describe the state function and internal energy. Students will be able to explain the ways by which internal energy can be changed. Students derive pressure - volume work. State first law of thermodynamics and give its mathematical form | Derive an expression for work done | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Chemical industries in UAE | Thermodynamic s can be cross linked with Physics | Model of Preeure -volume work | 1. Why is the difference between ΔH and ΔU not significant for solids or liquids? It has been found that 221.4J is needed to heat 30g of ethanol from 150C to 180C. calculate (a) specific heat capacity, and (b) molar heat capacity of ethanol | 1. The temperatures of inside and outside of a refrigerator are 273 K and 303 K respectively. Assuming, that the refrigerator cycle is reversible, for every joule of work done, the heat delivered to the surrounding will be nearly: (a) 10 J (b) 20 J (c) 30 J (d) 50 J 2. Third law of thermodynamics provides a method to evaluate which property? (a) Absolute Energy (b) Absolute Enthalpy (c) Absolute Entropy (d) Absolute Free Energy 3. One mole of which of the following has the highest entropy? (a) Liquid Nitrogen (b) Hydrogen Gas (c) Mercury (d) Diamond |
| | Thermodynamics | 7 | Explain the term heat capacity specific heat capacity and molar heat capacity. Measurement of Internal energy change and Enthalpy change. State the Hess's law, Spontaneity, Describe the Entropy Gibbs energy change and spontaneity | Students will be able to explain heat capacity and specific heat capacity. Students will be able to Derive the relation between Cp and Cv. Students will be able to State Hess's law and give its applications. Students will be able to define Gibbs energy. Students will be able to write the conditions for spontaneity. Students will be able to define entropy | Debate on Gibbs energy change and spontaneity | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Chemical industries in UAE | Relation between Cp and Cv can be cross linked with Physics | We can use machine to predict the standard entlpy formation of hydrocarbons | 3. Two ideal gases under same pressure and temperature are allowed to mix in an isolated system. What will be the sign of entropy change? | 4. In which of the following process, a maximum increase in entropy is observed? (a) Dissolution of Salt in Water (b) Condensation of Water (c) Sublimation of Naphthalene (d) Melting of Ice 5. Which thermodynamic function accounts automatically for enthalpy and entropy both? (a) Helmholtz Free Energy (A) (b) Internal Energy (E) (c) Work Function (d) Gibbs Free Energy 6. A system absorbs 10 kJ of heat at constant volume and its temperature rises from 270°C to 370°C. The value of ΔU is (a) 100 kJ (b) 10 kJ (c) 0 kJ (d) 1 kJ 7. The temperature of the system decreases in an _____. (a) Adiabatic Compression (b) Isothermal Expansion (c) Isothermal Compression (d) Adiabatic Expansion |
| | REVISION AND TERM- 1 EXAMINATION | | | | | | | | | | | |
| TERM- 1 EXAMINATION | | | | | | | | | | | | |
| October | Hydrogen | 7 | Describe the Position of hydrogen in the periodic table Explain the types of isotopes of hydrogen. Describe the various Hydrides Analyze the structure of Water Discuss the chemical properties of water. Differentiate between Hard water and soft water. Describe the various method for the Removal of hardness of water. Draw the structure of hydrogen peroxide-preparation ,chemical properties and structure | Students will be able to describe the position of hydrogen in the periodic table, Students will be able to depict the structure of water and acquire the knowledge about heavy water importance Students will be able to explain the various methods of preparation of hydrogen peroxide and its structure | 1) Students will debate on the position of hydrogen in the periodic table. 2) A research on hydrogen economy 3) Important applications of hydrogen peroxide | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Hydrogen economy in UAE | Presnt a skit on hydrogen economy (ART) | H ₂ -O ₂ Fuel cell can be made more efficient by innovative Al system | 1. Why is ice less dense than water and what kind of attractive forces must be overcome to melt ice? 2. Calculate the strength in volumes of a solution containing 30.36 g/l of H ₂ O ₂ . What happens when hydrogen peroxide reacts with acidified K ₂ C ₂ O ₇ ? | 1. Pure H ₂ O ₂ is : (a) Semi – solid (b) Liquid (c) Solid (d) Gas 2. The freezing point of heavy water is (a) 0°C (b) 3.8°C (c) 4°C (d) 1°C 3. H ₂ O ₂ used in rocket has the concentration: (a) 50% (b) 90% (c) 70% (d) 30% 4. Which of the following hydrides are generally nonstoichiometric in nature? (a) Ionic Hydrides (b) Molecular Hydrides (c) Interstitial Hydrides (d) All of the Above. 5. What is the product of the reaction of H ₂ O ₂ with Cl ₂ ? (a) O ₂ + HOCl (b) HCl + O ₂ (c) H ₂ O + HCl (d) HCl + H ₂ |
| | s Block elements | 7 | Discuss the general characteristics of the compounds of the alkali metals Explain the Anomalous properties of Lithium Some important compounds of sodium | Students will be able to understand the general characteristics of the alkali metals and their compounds Students will be able to describe the manufacture ,properties and uses of industrially important compounds of sodium. Students will be able to analyze the various uses of sodium compounds in daily life | Debate on biological importance of sodium potassium | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | Importance of sodium compounds in UAE | Importance of Na and K as minerals (Biology) | Model of Castner cellner cell for the manufacture of NaOH | 1. Why metals like potassium and sodium can not be extracted by reduction of their oxides by carbon? 2. Solution of Na ₂ CO ₃ is alkaline. Give reason. | 1. CsOH is (a) Strongly basic (b) Weakly basic (c) Slightly acidic (d) Amphoteric. 2. Solvays process is used for the manufacture of : (a) NaOH (b) (Na ₂ CO ₃ . 10H ₂ O) (c) K ₂ CO ₃ (d) Na ₂ O ₂ What are Oxo-Acids? (a) Acid containing Oxygen (b) Acid containing Sulphur (c) Acid containing Carbon (d) None of the Above 4. The substance not likely to contain CaCO ₃ is (a) Dolomite (b) A marble statue (c) Calcined gypsum (d) Sea shells. |
| | s Block elements | 7 | Discuss the general characteristics of the compounds of alkaline earth metals Explain the Anomalous behavior of Beryllium Analyze Some important compounds of calcium | Students will be able to describe the general trends in the properties of alkaline earth metals. Students will be able to describe the anomalous behaviour of Beryllium. Students will be able to analyze the diagonal relationship between Be and Al | A debate on diagonal relation ship between Be and Al | Smart board, Ncert book, related videos, ppt, sticky notes, blank papers, differentiated worksheets, assessment tasks etc.phet simulations | Cultural Awareness & Citizenship Independent Learning TOLERANCE | List out the various adsorption technique used in UAE | Importance of Al as electrode in physics | | | 3. Why does the solubility of alkaline earth metal hydroxides in water increase down the group? 4. Why is beryllium carbonate unusually unstable thermally as compared to the other carbonates of this group? 5. Anhydrous calcium sulphate can not be used as plaster of Paris. Give reason |

