

**Chapter 1 : Book talk:ICSE Class 10 Chemistry - Wikipedia**

*Revision Notes for ICSE Class 10 Chemistry Chapter 4 - Free PDF Download Free PDF download of Class 10 Chemistry Chapter 4 - Analytical Chemistry: Uses Of Ammonium Hydroxide And Sodium Hydroxide Revision Notes & Short Key-notes prepared by our expert Chemistry teachers as per CISCE guidelines.*

Relation between atomic number for light elements proton number and atomic mass for light elements; the modern periodic table up to period 3 students to be exposed to the complete modern periodic table but no questions will be asked on elements beyond period 3 - Argon ; periodicity and other related properties to be described in terms of shells not orbitals ; special reference to the alkali metals and halogen groups. Chemical Bonding Electrovalent, covalent and co-ordinate bonding, structures of various compounds - orbit structure and electron dot structure. Definition of Electrovalent Bond. Structure of Electrovalent compounds NaCl, MgCl<sub>2</sub>, CaO; Characteristic properties of electrovalent compounds - state of existence, melting and boiling points, conductivity heat and electricity , ionisation in solution, dissociation in solution and in molten state to be linked with electrolysis. Covalent Bond - definition and examples, structure of Covalent molecules on the basis of duplet and octet of electrons example: Characteristic properties of Covalent compounds - state of existence, melting and boiling points, conductivity heat and electricity , ionisation in solution. Comparison of Electrovalent and Covalent compounds. Definition of Coordinate Bond: The meaning of lone pair; the formation of hydronium ion and ammonium ion must be explained with help of electron dot diagrams. Study of Acids, Bases and Salts i Simple definitions in terms of the molecules and their characteristic properties. Salts are formed by partial or complete replacement of the hydrogen ion of an acid by a metal should be explained with suitable examples. Introduction to pH scale to test for acidity, neutrality and alkalinity by using pH paper or Universal indicator. Deliquescence, efflorescence, water of crystallization. Definition and example of each of the above. Decomposition of hydrogen carbonates, carbonates, chlorides and nitrates by appropriate acids with heating if necessary. Action of dilute acids on carbonates, hydrogen carbonates and action of concentrated acid. Equations of formation of Acid rain. Sulphuric acid on chlorides and nitrates, to obtain carbon dioxide, hydrogen chloride and nitric acid, respectively should be taught. This will assist the students in their practical work. Laboratory preparation of salts normal and acid salts: Direct combination; decomposition; displacement; double decomposition; neutralization. On solution of salts: Colour of salt and its solution. Formation and colour of hydroxide precipitated to be highlighted. Formation and colour of hydroxide precipitated to be highlighted with the help of equations. Special action of Ammonium Hydroxide on solutions of copper salts and sodium hydroxide on ammonium salts. The metals must include zinc and aluminium, their oxides and their hydroxides, which react with caustic alkalis NaOH, KOH , showing the amphoteric nature of these substances. Questions will not be set on formal proof but may be taught for clear understanding - simple calculations based on the molar volume. Deduction of simple empirical and molecular formula from the percentage composition of a compound; the molar volume of a gas at S. Relating mole and atomic mass; arriving at gram atomic mass and then gram atom; atomic mass is a number dealing with one atom; gram atomic mass is the mass of one mole of atoms. Relating mole and molecular mass arriving at gram molecular mass and gram molecule - molecular mass is a number dealing with a molecule, gram molecular mass is the mass of one mole of molecules. Deduction of simple empirical and molecular formula from the percentage composition of a compound. Electrolysis i Electrolytes and non-electrolytes. Substances containing molecules only, ions only, both molecules and ions. Examples; relating their composition with their behaviour as electrolyte strong and weak , non-electrolyte. Definition and explanation of electrolysis, electrolyte, electrode, anode, cathode, anion, cation, oxidation and reduction on the basis of loss and gain of electrons. The above electrolytic processes can be studied in terms of electrolyte used, electrodes used, ionization reaction, anode reaction, cathode reaction, use of selective discharge theory wherever applicable. Reasons and conditions for electroplating;; names of the electrolytes and the electrodes used should be given. Equations for the reactions at the electrodes should be given for electroplating, refining of copper. Na, Mg, Fe, Cu, to form ions. Metallurgy i Definition of Metals and Non-metals. General properties with special reference to physical

properties: In the physical properties of metals and non-metals, atomicity and valence electrons should also be included; suitable examples must be given for basic, acidic and neutral oxides; formation and discharge of ions at the cathode metallic and anode non-metallic should be explained with examples.  $\text{Al}_2\text{O}_3$ ,  $\text{MgO}$  - refer to activity series. Equations with conditions and observations should be given. Active metals by electrolysis e. Experiment to illustrate that moisture and oxygen in air are responsible for the corrosion. Prevention by painting and galvanization. Metals and their alloys: Occurrence of metals in nature - mineral and ore. Common ores of iron, aluminium and zinc. Description of the changes occurring, purpose of the substances used and the main reactions with their equations. Uses of iron, aluminium and zinc and their alloys. Study of Compounds Hydrogen Chloride Hydrogen chloride: Preparation of hydrogen chloride from sodium chloride; the laboratory method of preparation can be learnt in terms of reactants, product, condition, equation, diagram or setting of the apparatus, procedure, observation, precaution, collection of the gas and identification. Simple experiment to show the density of the gas Hydrogen Chloride - heavier than air. Solubility of hydrogen chloride fountain experiment ; setting of the apparatus, procedure, observation, inference - method of preparation of hydrochloric acid by dissolving the gas in water - the special arrangement and the mechanism by which the back suction is avoided should be learnt. Reaction with ammonia Acidic properties of its solution - reaction with metals, their oxides, hydroxides and carbonates to give their chlorides; decomposition of carbonates, hydrogen carbonates, sulphides, sulphites, thiosulphates and nitrates. Laboratory preparation from ammonium chloride and collection the preparation can be studied in terms of, setting of the apparatus and diagram, procedure, observation, collection and identification. Manufacture of ammonia on a large scale - reference should be made to Haber Process for the manufacture of ammonia. Ammonia from nitrides like  $\text{Mg}_3\text{N}_2$  and  $\text{AlN}$  and ammonium salts; the reactions can be studied in terms of reactant, product, condition, equation. Density and solubility of ammonia fountain experiment ; the property can be learnt in terms of setting of the apparatus, procedure and observation and inference. Aqueous solution of ammonia - reaction with sulphuric acid, nitric acid, hydrochloric acid and solutions of iron III chloride, iron II sulphate, lead nitrate, zinc nitrate and copper sulphate. Uses of ammonia - manufacture of fertilizers, explosives, nitric acid, refrigerant gas Chlorofluoro carbon - and its suitable alternatives which are non-ozone depleting , cleansing agents, source of hydrogen. Nitric Acid Nitric Acid: Nitric acid as an oxidizing agent. Laboratory method of preparation of nitric acid from potassium nitrate or sodium nitrate; the laboratory method can be studied in terms of reactant, product, condition, equation, setting, diagram, precaution, collection, identification. As an oxidising agent: Sulphuric Acid Sulphuric Acid: Manufacture by Contact process reference only. Detail of the process to be avoided. Its behaviour as an acid when dilute - reaction with metal, metal oxide, metal hydroxide, metal carbonate, metal bicarbonate, metal sulphite, metal sulphide. Concentrated sulphuric acid as an oxidizing agent - the oxidation of carbon and sulphur. Concentrated sulphuric acid as a dehydrating agent- a the dehydration of sugar b Copper II sulphate crystals. Non-volatile nature of sulphuric acid - reaction with sodium or potassium chloride and sodium or potassium nitrate. Organic Chemistry i Introduction to Organic compounds. Unique nature of Carbon atom - tetra valency, catenation, formation of single, double and triple bonds, straight chain, branched chain and cyclic compounds. Structure of compounds with single, double and triple bonds; Isomerism - structural chain, position iii Homologous series - characteristics with examples. Alkane, alkene, alkyne series and their gradation in properties and the relationship with the molecular mass or molecular formula. Simple nomenclature - of the hydrocarbons with simple functional groups - double bond, triple bond, alcoholic, ether, aldehydic, keto, carboxylic group longest chain rule and smallest number for functional groups rule - trivial and IUPAC names. Alkanes - general formula; methane green house gas and ethane - methods of preparation from sodium ethanoate sodium acetate , sodium propanoate sodium propionate , from iodomethane methyl iodide and bromoethane ethyl bromide. Oxidation of methane and ethane in presence of oxygen under suitable conditions, reaction of methane and ethane with chlorine through substitution. Alkenes - unsaturated hydrocarbons with a double bond ; ethene as an example. Methods of preparation of ethene by dehydro halogenation reaction and dehydration reactions. Alkynes - unsaturated hydrocarbons with a triple bond ; ethyne as an example of alkyne; Methods of preparation from calcium carbide and 1,2 dibromoethane ethylene dibromide. Only main properties, particularly addition products with

hydrogen and halogen namely Cl, Br and I; structural formulae of hydrocarbons. Structural formula must be given for: Uses of methane, ethane, ethene, acetylene. Nature, Solubility, Density, Boiling Points. Combustion, Oxidation with acidified Potassium dichromate, action with sodium, ester formation with acetic acid, dehydration with conc. Sulphuric acid with reference to Ethanol. Denatured alcohol vii Carboxylic acids aliphatic - mono carboxylic acid: Acetic acid - preparation, properties and uses of acetic acid. Preparation of acetic acid from Ethyl alcohol. Properties of Acetic Acid: Physical properties - odour vinegar , glacial acetic acid effect of sufficient cooling to produce ice like crystals. Chemical properties - action with litmus, alkalis and alcohol idea of esterification. Uses of acetic acid.

**Chapter 2 : Book:ICSE Class 10 Chemistry - Wikipedia**

*Concise Chemistry Class 10 ICSE Solutions has been written by expert teachers at Vedantu who have a wide range of experience in their respective academic fields. The solutions solved all the problems posed in the ICSE Class 10 Chemistry textbooks.*

State the colours of the following salts: Name two cations which are formed by non metals. Write the colors of the solutions containing the following cations: Name two salts whose solutions are colourless. Name a chloride of a metal which is soluble in excess of  $\text{NH}_4\text{OH}$ . Which reagent can be used to distinguish a solution containing a lead salt from a solution containing a zinc salt? Why does the blue precipitate of  $\text{Cu OH}_2$  turn black on heating? Which of the following ions in their solutions do not produce any precipitate with sodium hydroxide solution? Name the yellow monoxide that dissolves in hot and concentrated alkali. Name a hydroxide which is soluble in excess of ammonium hydroxide. A white precipitate is formed which is insoluble in excess of  $\text{NaOH}$  solution. Name a white insoluble oxide that dissolves when fused with caustic soda or caustic potash.

Long answer questions 1. What do you observe when  $\text{NH}_4\text{OH}$  is added to:  $\text{Fe}_2\text{SO}_4$  solution? Sodium hydroxide solution is added to solution A. State why aqueous solution of ammonia [ $\text{NH}_4\text{OH}$ ] is used for identification of cation. Identify the cation in each of the following case: Explain why it is so. You are given a mixture of precipitated copper II hydroxide and Zinc hydroxide. Name a solvent which will dissolve. Only  $\text{Zn OH}_2$ . This pale blue ppt dissolves in excess of  $\text{NH}_4\text{OH}$  giving an inky blue solution. What is the probable colour of solution B? When an ammonium salt is warmed with  $\text{NaOH}$  solution, ammonia gas is evolved. State three ways in which you could identify the gas. Write balanced chemical equations for the following:  $\text{NaOH}$  is added to  $\text{FeCl}_2$  solution. A yellow solution of a metal salt yields a reddish brown precipitate with caustic soda solution. The precipitate does not dissolve in excess of the alkali. The reddish brown ppt on strong heating leaves behind a red powder, insoluble in water but soluble in dilute  $\text{HCl}$ . Prove that the metal iron present in the salt. Write the chemical equation for the reaction involved. A compound A on strong heating gives two oxides of sulphur. On adding aqueous  $\text{NaOH}$  solution to its aqueous solution, a dirty green precipitate is obtained which starts turning brown on exposure to air. Write the balanced equations for the reaction between aluminum oxide and sodium hydroxide. What do you observe when excess of  $\text{NH}_3$  is passed through an aqueous solution of lead nitrate? From the list of metals given below, select a metal whose hydroxide is soluble in sodium hydroxide solution: Ca, Mg, Fe and Zn. Write balanced equations for a Al and b Zn, when warmed with caustic soda solution. Write a balanced equation for the following: Long Answer Questions 1.  $\text{NaOH}$  solution is added to the solutions containing the ions mentioned in List X. List Y gives the details of the precipitate. White insoluble in excess c. White soluble in excess e. White soluble in excess f. Write the equation for the following reactions:  $\text{ZnO}$  is treated with  $\text{NaOH}$  solution. Identify the substances P, Q and R in each case based in the information given below: The deliquescent salt P, turns yellow on dissolving in water, and gives a reddish brown precipitate with  $\text{NaOH}$  solution. The white crystalline solid Q is soluble in water. It liberates a pungent smelling gas when heated with sodium hydroxide solution. The pale green solid R turns reddish brown on heating. Its aqueous solution gives a white precipitate with barium chloride solution. The precipitate is soluble in mineral acids. Give one chemical test to distinguish between the following pairs of compounds iron II chloride, solution and iron III chloride solution. Give one test each to distinguish between the following pairs of chemicals: Zinc nitrate solution and Calcium nitrate solution. Iron III chloride solution and copper chloride solution. The questions a and b given below refer to the following salt solutions listed A to F: Which salt solution becomes deep inky blue in colour when excess of ammonium hydroxide solution is added to it? Which salt solution gives a white precipitate with excess of  $\text{NH}_4\text{OH}$  solution?  $\text{NaOH}$  solution is added first in a small quantity and then in excess to each of the aqueous salt solutions given below: Copy the following table. Also, write the color of the precipitate obtained in A to E and the nature of the precipitate soluble or insoluble in F to J:

**Chapter 3 : chem tutor: ELECTROLYSIS - 10 ICSE CHAPTER WISE QUESTIONS**

*this chemistry blog is for 10 class icse, cbse and pg students; main contents of this blog are (1) 10th class chapter wise questions, past papers, tips and video lecture on hard topics.*

Relation between atomic number for light elements proton number and atomic mass for light elements; the modern periodic table up to period 3 students to be exposed to the complete modern periodic table but no questions will be asked on elements beyond period 3 – Argon ; periodicity and other related properties to be described in terms of shells not orbitals ; special reference to the alkali metals and halogen groups. Chemical Bonding Electrovalent, covalent and co-ordinate bonding, structures of various compounds – orbit structure and electron dot structure. Definition of Electrovalent Bond. Structure of Electrovalent compounds NaCl, MgCl<sub>2</sub>, CaO; Characteristic properties of electrovalent compounds – state of existence, melting and boiling points, conductivity heat and electricity , ionisation in solution, dissociation in solution and in molten state to be linked with electrolysis. Covalent Bond – definition and examples, structure of Covalent molecules on the basis of duplet and octet of electrons example: Characteristic properties of Covalent compounds – state of existence, melting and boiling points, conductivity heat and electricity , ionisation in solution. Comparison of Electrovalent and Covalent compounds. Definition of Coordinate Bond: The meaning of lone pair; the formation of hydronium ion and ammonium ion must be explained with help of electron dot diagrams. Study of Acids, Bases and Salts Simple definitions in terms of the molecules and their characteristic properties. Salts are formed by partial or complete replacement of the hydrogen ion of an acid by a metal should be explained with suitable examples. Introduction to pH scale to test for acidity, neutrality and alkalinity by using pH paper or Universal indicator. Definition of salt; types of salts. General properties of salts: Deliquescence, efflorescence, water of crystallization. Definition and example of each of the above. Decomposition of hydrogen carbonates, carbonates, chlorides and nitrates by appropriate acids with heating if necessary. Action of dilute acids on carbonates, hydrogen carbonates and action of concentrated acid. Equations of formation of Acid rain. Sulphuric acid on chlorides and nitrates, to obtain carbon dioxide, hydrogen chloride and nitric acid, respectively should be taught. This will assist the students in their practical work. Laboratory preparation of salts normal and acid salts: Direct combination; decomposition; displacement; double decomposition; neutralization. On solution of salts: Colour of salt and its solution. Formation and colour of hydroxide precipitated to be highlighted. Formation and colour of hydroxide precipitated to be highlighted with the help of equations. Special action of Ammonium Hydroxide on solutions of copper salts and sodium hydroxide on ammonium salts. On certain metals and their oxides relevant laboratory work is essential. The metals must include zinc and aluminium, their oxides and their hydroxides, which react with caustic alkalis NaOH, KOH , showing the amphoteric nature of these substances. Questions will not be set on formal proof but may be taught for clear understanding – simple calculations based on the molar volume. Refer to the atomicity of hydrogen, oxygen, nitrogen and chlorine proof not required. Relative atomic masses atomic weight and relative molecular masses molecular weights: Deduction of simple empirical and molecular formula from the percentage composition of a compound; the molar volume of a gas at S. Relating mole and atomic mass; arriving at gram atomic mass and then gram atom; atomic mass is a number dealing with one atom; gram atomic mass is the mass of one mole of atoms. Relating mole and molecular mass arriving at gram molecular mass and gram molecule – molecular mass is a number dealing with a molecule, gram molecular mass is the mass of one mole of molecules. Deduction of simple empirical and molecular formula from the percentage composition of a compound. Electrolysis Electrolytes and non-electrolytes. Substances containing molecules only, ions only, both molecules and ions. Examples; relating their composition with their behaviour as electrolyte strong and weak , non-electrolyte. Definition and explanation of electrolysis, electrolyte, electrode, anode, cathode, anion, cation, oxidation and reduction on the basis of loss and gain of electrons. An elementary study of the migration of ions, with reference to the factors influencing selective discharge of ions, illustrated by the electrolysis of: The above electrolytic processes can be studied in terms of electrolyte used, electrodes used, ionization reaction, anode reaction, cathode reaction, use of selective discharge theory

wherever applicable. Reasons and conditions for electroplating;; names of the electrolytes and the electrodes used should be given. Equations for the reactions at the electrodes should be given for electroplating, refining of copper. Acids, bases and salts as electrolytes: Na, Mg, Fe, Cu, to form ions. Metallurgy Definition of Metals and Non-metals. Position of the metals alkali metals and alkaline earth metals in the Periodic table and general characteristics applied to these elements with reference to the following occurrence, nature, bonding, action of air, action of water, action of acids. Comparison of Metals and Non-metals. General properties with special reference to physical properties: In the physical properties of metals and non-metals, atomicity and valence electrons should also be included; suitable examples must be given for basic, acidic and neutral oxides; formation and discharge of ions at the cathode metallic and anode non-metallic should be explained with examples. Reduction of metallic oxides; some can be reduced by hydrogen, carbon and carbon monoxide e.  $\text{Al}_2\text{O}_3$ ,  $\text{MgO}$  refer to activity series. Equations with conditions and observations should be given. Extraction of metals based on the activity series. Active metals by electrolysis e. Corrosion of iron and its prevention. Experiment to illustrate that moisture and oxygen in air are responsible for the corrosion. Prevention by painting and galvanization. Metals and their alloys: Occurrence of metals in nature mineral and ore. Common ores of iron, aluminium and zinc. Description of the changes occurring, purpose of the substances used and the main reactions with their equations. Uses of iron, aluminium and zinc and their alloys. Composition of their alloys steel, duralumin, brass. Other important alloys bronze, fuse metal and solder. Study of Compounds Hydrogen Chloride Hydrogen chloride: Preparation of hydrogen chloride from sodium chloride; the laboratory method of preparation can be learnt in terms of reactants, product, condition, equation, diagram or setting of the apparatus, procedure, observation, precaution, collection of the gas and identification. Simple experiment to show the density of the gas Hydrogen Chloride heavier than air. Solubility of hydrogen chloride fountain experiment ; setting of the apparatus, procedure, observation, inference method of preparation of hydrochloric acid by dissolving the gas in water the special arrangement and the mechanism by which the back suction is avoided should be learnt. Reaction with ammonia Acidic properties of its solution reaction with metals, their oxides, hydroxides and carbonates to give their chlorides; decomposition of carbonates, hydrogen carbonates, sulphides, sulphites, thiosulphates and nitrates. Laboratory preparation from ammonium chloride and collection the preparation can be studied in terms of, setting of the apparatus and diagram, procedure, observation, collection and identification. Manufacture of ammonia on a large scale reference should be made to Haber Process for the manufacture of ammonia. Ammonia from nitrides like  $\text{Mg}_3\text{N}_2$  and  $\text{AlN}$  and ammonium salts; the reactions can be studied in terms of reactant, product, condition, equation. Density and solubility of ammonia fountain experiment ; the property can be learnt in terms of setting of the apparatus, procedure and observation and inference. Aqueous solution of ammonia reaction with sulphuric acid, nitric acid, hydrochloric acid and solutions of iron III chloride, iron II sulphate, lead nitrate, zinc nitrate and copper sulphate. Uses of ammonia manufacture of fertilizers, explosives, nitric acid, refrigerant gas Chlorofluorocarbon [CFC] and its suitable alternatives which are non-ozone depleting , cleansing agents, source of hydrogen. The catalytic oxidation of ammonia, as the source of nitric acid; refer to Ostwald process simple diagram for a catalytic oxidation of ammonia in the laboratory with conditions and reactions only. Nitric Acid Nitric Acid: Nitric acid as an oxidizing agent. Laboratory method of preparation of nitric acid from potassium nitrate or sodium nitrate; the laboratory method can be studied in terms of reactant, product, condition, equation, setting, diagram, precaution, collection, identification. As an oxidising agent: Sulphuric Acid Sulphuric Acid: Manufacture by Contact process reference only. Detail of the process to be avoided. Its behaviour as an acid when dilute reaction with metal, metal oxide, metal hydroxide, metal carbonate, metal bicarbonate, metal sulphite, metal sulphide. Concentrated sulphuric acid as an oxidizing agent the oxidation of carbon and sulphur. Concentrated sulphuric acid as a dehydrating agent- a the dehydration of sugar b Copper II sulphate crystals. Non-volatile nature of sulphuric acid reaction with sodium or potassium chloride and sodium or potassium nitrate. Organic Chemistry Introduction to Organic compounds. Unique nature of Carbon atom tetra valency, catenation, formation of single, double and triple bonds, straight chain, branched chain and cyclic compounds. Structure of compounds with single, double and triple bonds; Isomerism structural chain, position

Homologous series characteristics with examples. Alkane, alkene, alkyne series and their gradation in properties and the relationship with the molecular mass or molecular formula. Simple nomenclature of the hydrocarbons with simple functional groups double bond, triple bond, alcoholic, ether, aldehydic, keto, carboxylic group longest chain rule and smallest number for functional groups rule trivial and IUPAC names. Alkanes general formula; methane greenhouse gas and ethane methods of preparation from sodium ethanoate sodium acetate, sodium propanoate sodium propionate, from iodomethane methyl iodide and bromoethane ethyl bromide. Oxidation of methane and ethane in presence of oxygen under suitable conditions, reaction of methane and ethane with chlorine through substitution. Alkenes unsaturated hydrocarbons with a double bond; ethene as an example. Methods of preparation of ethene by dehydrohalogenation reaction and dehydration reactions.

**Chapter 4 : Concise Chemistry Class 10 ICSE Solutions - Selina Publishers**

*ANALYTICAL CHEMISTRY CLASS 10 ICSE. ANALYTICAL CHEMISTRY CLASS 10 ICSE. Skip navigation Sign in. Class 10 ICSE: ANALYTICAL Chemistry: Colour of Ions & Precipitate - Duration:*

Name the particles present in a compound which is a non electrolyte. Why is it necessary to add acid to water before proceeding with the electrolysis of water? Explain why is solid NaCl a very poor conductor while if melted is good conductor of electricity. Why are articles electroplated? Name the substance which is a good conductor of electricity but a bad conductor of heat. Which particles are present in solid lead II bromide and molten lead II bromide? Explain why a direct current should be used during electroplating. A small current should be used for a longer time during electroplating. Write the main applications of electrolysis. Explain why pure water does not conduct electricity. How is the passage of electricity through an electrolyte different from the passage of electricity through copper wire? State three applications of electrolysis. Give reasons why a solution of AgNO<sub>3</sub> is a good electrolyte but it is not used in electroplating an article with silver. Write two applications of electrolysis in which the anode diminishes in mass. Long Answer questions 1. Weak electrolyte and strong electrolyte. Electrolysis of Molten Lead Bromide: What should be the physical state of lead bromide, if it has to conduct electricity? What particles are present in pure Lead bromide? Why is the electrolytic cell made of silica? Summarise the electrode reactions. Complete the following paragraph by inserting one of the following words in each blank space: Electrolysis of acidified water or dilute sulphuric acid: With reference to the electrolysis of acidulated water, answer the following: Explain why distilled water is a non-electrolyte. What is the electrolytic cell called? Name the gas released at the Cathode and Anode during the electrolysis of acidulated water. Explain why the cathode and anode are made up of platinum foil. Complete the table given below for the electrolytic reactions. Explain why the volume of hydrogen to oxygen evolved is in the ratio of 2:1. To carry out so called electrolysis of water, sulphuric acid is added to water. How does the addition of sulphuric acid produce a conducting solution? Complete the following sentences with suitable words or phrases from the brackets. Electrolysis of CuSO<sub>4</sub> solution: State the ions present in CuSO<sub>4</sub> solution. Products at the electrodes Cathode and Anode during electrolysis of copper sulphate. Compare the change in mass of cathode with change in mass of anode. What is seen to happen to the colour of CuSO<sub>4</sub> solution if platinum electrodes are used? Explain why the blue colour of the copper sulphate solution does not fade during its electrolysis using Cu electrodes. Explain why during the electrolysis of CuSO<sub>4</sub> using Cu electrodes, Cu and H<sup>+</sup> ions migrate towards the cathode but only Cu ions are discharged. Complete the electrolytic reaction of the above electrolysis. Name the electrode formed by the article to be plated. What ions must be present in the electrolyte? Name the electrolyte used. What should be the nature of the anode? Complete the electrolytic reactions of the above electrolysis. Choose words from the following list, write appropriate words to fill the blank spaces. The diagram represents the arrangement for the electro refining of copper. Electrolysis is used for the purification of metals. Name the following with reference to the electrorefining of copper. The product formed at anode. The product formed at cathode. Complete the table given below for the electrolytic reaction. Give reasons for the following: Metals above Zn in the activity series of metals are extracted from their ores by electrolysis. Extraction of sodium is carried out by electrolysis of NaCl in molten or fused state only. Complete the following table which refers to two practical applications of electrolysis: Classify the following into: Choose from the following list the one which contains: Why is the electrolysis of acidulated water considered as an example of catalysis? Prolonged electrolysis of CuSO<sub>4</sub> solution between platinum electrodes, results in the formation of hydrogen gas at the cathode and oxygen gas at the anode. When a zinc rod is placed in a solution of silver nitrate, a white ppt is formed while no ppt is formed when a silver rod is dipped in a solution of Zinc nitrate. Why is copper sulphate solution not kept in iron vessels? A solution of cane sugar does not conduct electricity but a solution of NaCl is a good conductor. In the electrolysis of acidified water dilute sulphuric acid is preferred to dilute nitric acid for acidification. Match the substance from the following list with appropriate description given below: Graphite A pink metal which is deposited at the cathode during the electrolysis of the solutions of this salt. Why is carbon

tetrachloride, which is a liquid, a non electrolyte? What is observed when copper sulphate solution is electrolysed using a platinum anode? Identify the following reactions as either oxidation or reduction: A solution of silver nitrate is a good electrolyte but it is not used for electroplating an article with silver. Electrons are getting added to element Y. Which electrode will Y migrate to during electrolysis? Write two applications of electrolysis in which the anode diminishes in mass. What kind of particles will be found in a liquid which is a non electrolyte? Name the liquid which is a non electrolyte. Name a solid which undergoes electrolysis when molten. Classify the following substances under strong electrolytes, weak electrolytes and non electrolytes: What is an electrolyte? Long answer Questions 1. During electrolysis of  $\text{CuSO}_4$  solution using platinum as cathode and carbon as anode: What do you observe at the cathode and at the anode? What change is noticed in the electrolyte? Write the reactions at the cathode and at the anode. Differentiate between the electrical conductivity of  $\text{CuSO}_4$  solution and Cu metal. Why is the electrolysis of acidulated water considered as an example of electrolysis. Ramu wants to electroplate his key chain with nickel to prevent rusting. For this electroplating, a. Name the electrolyte; b. Name the anode d. Give the reactions at anode. Give the reactions at cathode 5. Three different electrolytes A, B and Care connected in separate circuits. Electrolytic cell A contains sodium chloride solution. When the circuit is completed a bulb in the circuit glows brightly. Electrolytic cell B contains acetic acid solution, and in this case the bulb in the circuit glows dimly. The electrolytic cell C contains sugar solution and the bulb does not glow. Give a reason for each of these observations. A metal article is to be electroplated with silver.

### Chapter 5 : ICSE Chemistry Class 10 Syllabus

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### Chapter 6 : chem tutor: ANALYTICAL CHEMISTRY - 10 ICSE CHAPTER WISE QUESTIONS

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### Chapter 7 : ICSE Class 10 Analytical Chemistry “ Helpline for ICSE Students (Class 10)

*Class 10 ICSE: ANALYTICAL Chemistry: Colour of Ions & Precipitate - Duration: Physics Wallah ICSE Chemistry Class 10 -Periodic properties - Duration:*

### Chapter 8 : ICSE Class 10 Chemistry Chapter 4 - Analytical Chemistry Revision Notes

*Chemistry deals with two types of analysis: Quantitative analysis and Qualitative analysis. Quantitative analysis involves determination of composition of a mixture while qualitative analysis involves identification of an unknown substance.*

### Chapter 9 : ICSE Guess > ICSE Papers > Important Questions > Class X > > Chemistry

*Our Revision Notes for ICSE class 10 Chemistry summarise key points of a chapter in an easy to remember format. They provide students with an extra edge and help gain confidence before appearing for their examinations.*