THE AIR FORCE SCHOOL : SUBROTO PARK : DELHI CANTT-110010

Class – XII

Sub: Chemistry

Weekly Syllabus

Academic Session 2023-24

Month	Week	Dates		Days	No of Periods	Chapter	Contents	Syllabus
Apr-23	I	01	**01-Working Saturday (Student)**	01		Chapter 2 : Solutions	**Chapter- 2 (Solutions)** Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions,	
	II	03-07	**04 - Mahavir Jayanti** **07 – Good Friday**	03		Chapter 2 : Solutions Practical-1	Raoult's law, Ideal and non-ideal solution, Azeotropes and types, colligative properties - relative lowering of vapour pressure. • Qualitative Analysis: To determine the strength	

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							of the given $KMnO_4$ solution by titrating it with a standard solution of Mohr's salt solution.	
	III	10-14	**14 - Ambedakar Jayanti**	04		Chapter 2 : Solutions Practical-2 Practical- 3	Elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, • Qualitative Analysis: To determine the strength of the given $KMnO_4$ soln by titrating it with a standard solution of Oxalic acid salt solution. • Chromatography	
	IV	17-21		05		Chapter 2 : Solutions Chapter 3:	abnormal molecular mass, Van't Hoff factor. Redox reactions, EMF of a	

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						Electrochemistry Practical- 4	cell, standard electrode potential, To analyse the given inorganic salt for the acid and the basic radicals	
	V	24-29	**29-Working Saturday (Student)** **29 – Parent Orientation VI & IX**	06		Chapter 3: Electrochemistry Practical- 4	Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity. To analyse the given inorganic salt for the acid and the basic radicals	
May-23	I	01-05	**05 – Budha Purnima** **01-04 : ES-1 (XII)/ CT-1 (X)**	04		Chapter 3: Electrochemistry	variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis, commercial cells and batteries, corrosion.	**ES-1 (XII)/ CT-1 (X)** **Date: 01-08 May** **Chapter – 2** **(Solutions)** Chapter – 3 Electrochemistry (Electrochemical cell)
	II	08-12	**08 : ES-1 (XII)/ CT-1 (X)** **11,12 – The Quest**	05		Chapter 3: Electrochemistry	Kohlrausch's Law, electrolysis and law of electrolysis, commercial cells and batteries, corrosion.	

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						Practical- 5	To analyse the given inorganic salt for the acid and the basic radicals	
	III	15-20	**20- Working Saturday (Open House X & XII)**	06		Ch- 4 Chemical Kinetics Practical- 6	Rate of a reaction (Average and instantaneous), To analyse the given inorganic salt for the acid and the basic radicals	
******* SUMMER BREAK 22 MAY -30 JUN 2023 ********								
Jul-23	I	01-	01- School reopens for staff	01		Ch- 4 Chemical Kinetics	factors affecting rate of reaction: concentration, temperature,	**PT-I** **Class VI-X Date: 07 Jul – 19Jul** **ES-2 (XII): 07 Jul – 19Jul** **Chapter – 2 (Solutions)** **Chapter- 3 (Electrochemistry)**
	II	03-07		05		Ch- 4 Chemical Kinetics Practical - 7	catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half -life (only for zero and first order reactions) To analyse the given inorganic salt for the acid and the basic radicals	
	III	10-14		05		Ch- 4 Chemical Kinetics	concept of collision theory	

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							(elementary idea, no mathematical treatment), activation energy, Arrhenius equation.	
						Practical - 8	To analyse the given inorganic salt for the acid and the basic radicals	
	IV	17-22	**22 – Working Saturday (Students)**	06		Chapter-10 Haloalkanes and Haloarenes	Haloalkanes: Nomenclature, nature of C–X bond, physical properties of Haloalkanes and Haloarenes. Methods of preparation of haloalkanes and haloarenes.	
						Practical - 9	To analyse the given inorganic salt for the acid and the basic radicals	
	V	24-28	**29-Muharram**	05		Chapter-10 Haloalkanes and Haloarenes	Physical properties, Chemical properties of haloalkanes, optical rotation, mechanism of substitution reactions S_N1, S_N2. Elimination reactions . Elimination Vs substitution. Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen	

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							in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.	
						Practical - 10	Tests for functional groups in the organic compounds	
	VI	31		01		Chapter-10 Haloalkanes and Haloarenes	Haloarens	
Aug-23	I	01-05	**05 – Working Saturday (Open House (VI-X), XII)**	05			Haloarenes continue	
						(Chapter-11) Alcohols , Phenols and Ethers	Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols.	
						Practical - 11	Tests for functional groups in the organic compounds	
	II	07-11		05		(Chapter-11) Alcohols ,	mechanism of dehydration, uses with special reference to methanol and ethanol.	

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						Phenols and Ethers Practical - 12	Phenols: Nomenclature, methods of preparation, physical and chemical properties. Food tests	
	III	14-18	**15 – Independence Day**	04		(Chapter-11) Alcohols , Phenols and Ethers Practical - 13	Acidic nature of phenol, Electrophillic substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses. Preparation of starch sol and Dialysis	
	IV	21-26	**24,25-Class Test** **26-Working Saturday (Students)** **26-Annual Prize Distribution**	06		Chapter- 12 Aldehydes, Ketones and Carboxylic acid Practical - 14	Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, To study the effect of temperature on the rate of reaction	**ES-1 (XI): 21 Aug – 25 Aug**

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	V	28-32	**30-Raksha Bandhan** **28,29 -Class Test**	03		Chapter- 12 Aldehydes, Ketones and Carboxylic acid	reactivity of alpha hydrogen in aldehydes, uses. Carboxylic Acids: Nomenclature, acidic nature, methods of preparation,	
Sep-23	I	01	**01 -Class Test**	01				
	II	04-08	**07-Janmashtami**	04		Mid Term/ HYE Exam		**Mid Term (PT-II)/ HYE** **Date 11-23 Sep** Ch- 2 SOLUTIONS CH- 3 ELECTROCHEMISTRY CH-4 CHEMICAL KINETICS CH- 10 HALOALKANES AND HALOARENES CH- 11 ALCOHOLS, PHENOLS AND ETHERS Ch- 12 Aldehydes,
	III	11-16	**16 – Working Saturday (Students)**	06				
	IV	18-23	**23 – Working Saturday (Students)**	06				
	V	25-30	**28-Milad-un-Nabi**	04		Chapter- 12 Aldehydes, Ketones and Carboxylic acid	physical and chemical properties; uses of carboxylic acids	

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								Ketones and Carboxylic acids (upto aldehydes and Ketones excluding carboxylic acids)
Oct-23	II	02-07	**02-Mahatma Gandhi's Birthday** **07-Annual Prize Distribution**	05		Chapter- 13 (Amines) Practical - 15	Types of amines, nomenclature, methods of preparation of amines, Basicity of amines in the gaseous phase and aqueous medium and chemical properties – Diazotisation, To study the effect of concentration on the rate of reaction	
	III	09-14	**14- Working Saturday(Open House VI-XII)**	06		Chapter- 13 (Amines) **Ch- 14 Biomolecules**	Carbylamine test, Hinsberg's test Diazonium salt. Carbohydrates - Classification (aldoses and ketoses), 7 | Page Practical-12 monosaccahrides (glucose and fructose), D-L configuration, oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch,	

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						Practical - 17	cellulose, glycogen. Preparation of crystals of Potash Alum	
	IV	16-20		05		**Ch- 14 Biomolecules**	Importance of carbohydrates. Proteins - Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), Nucleic acids.	
	V	23-27	**23– Autumn Break** **24- Dussehra** **28-Maharishi Valmiki's Birthday**	03		Chapter- 8 d and f- Block Elements	Ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.	
	VI	30-31		02		Chapter- 8 d and f- Block Elements	preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.	

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*** Autumn Break 23 Oct 2023 ***								
Nov-23	I	01-04	**01– Karwa Chouth** **04 – Working Saturday (Students)**	03		Chapter- 8 d and f- Block Elements	Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.	
	II	06-10	**07 – Annual Day**	05		Chapter- 9 Co-ordination Compounds	Werner's Theory , Coordination compounds - Introduction, ligands, coordination number, IUPAC nomenclature of mononuclear coordination compounds. VBT, magnetic properties and shapes Bonding, Stability of complexes. Crystal field theory , applications of co ordination compounds	
	III	13-18	**11-15 – Diwali Break**	03				**PT-III (VI-VIII):** 17 Nov-14 Dec **PT-III (IX & X):** 20 Nov-30 Nov **ES-2 (XI):** 21 Nov-14 Dec **MPB (XII):** 20 Nov-30 Nov
	IV	20-24		05				

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	V	27-30	**27 – Guru Nank's Birthday**	03				
Dec-23	**I**	01-02	**01,02 – Annual Athletic Meet**	02				
	II	04-09	**09 – Sports Day**	06				
	III	11-16	**16-Working Saturday, Open House (IX,X & XII)**	06				
	IV	18-22	**20-22 – TAFS MUN** **24,25 – Christmas Holidays**	05				
***** Winter Break from 26 Dec to 05 Jan 2024 *****								
Jan-24	I	08-12		05				**Pre-Board (X & XII):** **09 Jan-23 Jan**
	II	15-20	**20-Working Saturday, Open House (VI-VIII, XI)**	06				
	III	22-27	**26-Republic Day** **27- Farewell XII**	05				
	IV	29-31		03				
Feb-24	I	01-03	**01,02- Class Test** **03-Working Saturday, Citation Ceremony, Open House (X& XII)**	03				

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	II	05-09	**05-08- Class Test**	05				**Annual Exam Class IX & XI – 07 Feb-21 Feb 2023**
	III	12-16		05				
	IV	19-23		05				
	V	26-29		04				
Mar-24	**Annual Exam Classes VI-VIII – 26 Feb-11 Mar 2024**							

Note: The examination syllabus as mentioned above is to be considered Tentative. The final syllabus for each exam will be uploaded on the website along with the Date Sheet at the time of the examination.