COURSE STRUCTURE
SUBJECT: CHEMISTRY
CLASS XII
SESSION: 2010-2011

Unit No.	Title	Marks
Unit	Solid State	4
Unit II	Solution	5
Unit III	Electrochemistry	5
Unit IV	Chemical Kinetics	5
Unit V	Surface Chemistry	4
Unit VI	General Principles and Process of Isolation of Elements	3
Unit VI	p-Block Elements	8
Unit VII	d-and f-Block Elements	5
Unit IX	Coordination Compounds	3
Unit X	Haloalkanes and Haloarenes	4
Unit XI	Alcohols, Phenols and Ethers	4
Unit XII	Aldehydes, Ketones and Carboxylic acids 6	6
Unit XIII	Organic Compounds containing B \Nitrogen	4
Unit XIV	Biomolecules	4
Unit XV	Polymers	3
Unit XVI	Chemistry in everydat life	3
	Total	**70**

CLASS - XII
SUBJECT: CHEMISTRY
SESSION – 2010 – 2011

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
1.	April 1 to 3-2010 April 2 G.H.	2	Unit-I	**SOLID STATE** Classification of solid based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional lattices.
2.	April 5 to 9-2010	6	Unit-I	**SOLID STATE** Calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties NCERT QUESTIONS
3.	April 12 to 17-2010 April 14 R.H.	5	Unit-II	**SOLUTION** Type of solution, expression of concentration of solution of solid in liquids, solubility of gases in liquids, solid solution. Colligative properties-relative lowering of vapour pressure, elevation of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties
4.	April 19 to 24-2010	6	Unit-II & Unit-III	**SOLUTION** Abnormal molecular mass NCERT QUESTIONS OF UNIT II **ELECTRO CHEMISTRY** Redox reaction, conductance in electrolytic solution, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea)
5.	April 26 to 1 May 2010	6	Unit-III	**ELECTRO CHEMISTRY** Dry cell-electrolytic cells and galvanic cells: ;lead accumulator, EMF of a cell, standard electrode potential, Nermst equation and its application NCERT QUESTIONS OF UNIT III
6.	May 3 to 7 2010	5	Unit-IV	**CHEMICAL KINETICS** Rate of a reaction (average and instantaneous), factors affecting rates of reaction; concentration, temperature, 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); concept of collision theory (elementary idea, no mathematical treatment) NCERT QUESTIONS OF UNIT IV

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
7.	**May 10 to June 25-2010**			**SUMMER VACATIONS**
8.	**June 26 to 28-2010**	**2**	**Unit-I TO Unit IV**	**REVISION**
9.	**June 29 to July 3-2010**	**5**	**Unit-V**	**SURFACE CHEMISTRY** Adsorption-physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis: homogenous and heterogeneous, activity and selectivity: enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophilic, lyophobic, multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsion-types of emulsions. NCERT QUESTIONS OF UNIT -V
10.	**July 5 to 9-2010**	**5**	**Unit-VI**	**GENERAL PRINCIPALS AND PROCESS OF EXTRACTION OF ELEMENTS** Principles and methods of extraction-concentration, oxidation, reduction electrolytic method and refining; occurrence and principles of extraction of aluminum, copper, zinc and iron. NCERT QUESTIONS OF UNIT -VI
11.	**July 12 to 17-2010**	**6**	**Unit-VII**	**SOME p-BLOCK ELEMENTS** **Group 15:** Trends in physical and chemical properties; nitrogen-preparation, properties and uses; compounds of nitrogen: preparation and properties of Ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous allotropic forms; compounds of phosphorous: preparation and properties of phosphine, halides (PCL3, PCL5) and oxo acids (elementary idea only). **Group 16 :** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen: preparation properties and uses ; simple oxides ; Ozone, sulphur- allotropic forms ; Compounds of sulphur: preparation, properties and uses of sulphur dioxide sulphuric ac id: industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).
12.	**July 19 to 24-2010**	**6**	**Unit-VII**	**SOME p-BLOCK ELEMENTS** **Group 17 Elements :** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and Hydrochloric acid, interhalogen compounds, oxo acids of halogens (structures only). **Group 18 elements:** General introduction, electronic configuration. Occurrence, trends in physical and chemical properties, uses. NCERT QUESTIONS OF UNIT –VII & REVISION

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
13.	**July 26 to 31-2010**	**6**	**Unit-VIII**	**d-AND f-BLOCK ELEMENTS** General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals-metallic character, ionization enthalpy, oxidation states, ionic radii, colour catalytic property, magnetic properties, interstitial compounds, alloy formation
14.	**Aug. 2 to 7-2010**	**6**	**Unit-VIII & Unit IX**	**d-AND f-BLOCK ELEMENTS** Preparation and properties of K2Cr2O7 and KMnO4 **Lanthanoids-**electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction. **Actinoids -** Electronic configuration, oxidation states. Revision of Unit VIII / NCERT Questions
15.	**Aug. 9 to 13-2010**	**5**	**Unit-IX**	**COORDINATION COMPOUNDS** Coordination compounds - introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding;
16.	**Aug. 16 to 21-2010 Aug. 17 R.H.**	**6**	**Unit-X**	Isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems). NCERT Questions Unit IX REVISION OF UNITS VIII & IX
17.	**Aug. 23 to 28-2010**	**6**	**Unit-XI**	**Alcohols, Phenols and Ethers :** **Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses of methanol and ethanol. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. **Ethers :** Nomenclature, methods of preparation, physical and chemical properties, uses NCERT QUESTIONS OF Unit XI
18.	**Aug. 30 to Sept 4-2010 Sep 2 G.H.**	**5**		REVISION OF UNIT X-XI REVISION OF UNIT I-III
19.	**Sept. 6 to 10-2010**	**4**		REVISION OF UNIT IV-VII
20.	**Sept. 8-2010**			FIRST CCEP EXAM

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
21.	**Sept. 13 to 20-2010**	**7**		FIRST TERM EXAMS
22.	**Sept. 21 to 25-2010**	**5**	**Unit I -XI**	DISCUSSION OF FIRST TERM QUESTION PAPERS
23.	**Sept. 24 to 30-2010**	**6**	**Unit-XVI**	Chemistry in Everydat Life 1. Chemicals in medicines – Analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines. 2. Chemicals in foods – preservatives, artificial sweetening agents. 3. Cleaning agents – soaps and detergents, cleaning action. NCERT QUESTIONS
24.	**Oct. 1 to 17-2010**	**17**		**CLOSURE OF SCHOOL DUE TO COMMON WEALTH GAMES (8-10-10 TO 16-10-10 AUTUMN BREAK)**
25.	**Oct. 18 to 23-2010 Oct. 22 G.H.**	**5**	**Unit-XII**	Aldehydes, Ketones and Carboxylic Acids Aldehydes, and Ketones : Nomenclature, nature of carbonyl group, methods of preparation, physics and chemical properties mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
26.	**Oct. 25 to 30-2010**	**6**	**Unit-XII** **Unit-XIII**	**Carboxylic Acids :** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses. NCERT QUESTIONS OF UNIT XII ORGANIC COMPOUNDS CONTAINING NITROGEN Amines: Nomenclature, classification, structure, methods of preparation.
27.	**Nov. 1 to 6-2010** **Nov. 5 G.H.**	**5**	**Unit-XIII**	ORGANIC COMPOUNDS CONTAINING NITROGEN Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry. NCERT QUESTIONS OF UNIT XII
28.	**Nov. 8 to 12-2010**	**5**	**Unit-XIV**	**Biomolecules** **Carbohydrates –** Classification (aldoses and ketoses) monosaccharide (glucose and fructose), oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); importance **Proteins –** Elementary ides of amino acids, peptide bond, polypeptides proteins, primary structure, secondary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only) denaturation of proteins; enzymes.
29.	**Nov. 15 to 20-2010** **Nov. 17 G.H.**	**5**	**Unit-XIV** **Unit-XV**	**Biomolecules** **Vitamins –** Classification and functions **Nucleic Acids:** DNA & RNS.
30.	**Nov. 22 to 27-2010**	**6**	**Unit-IXV**	**Polymers** Some important polymers: natural and synthetic like polythene, nylon, polyesters, bakelite, and rubber. NCERT QUESTIONS OF UNIT – XV REVISION
31.	**Nov. 29 to Dec. 4-2010**	**6**		REVISION
32.	**Dec. 6 to 10-2010**	**4**		REVISION
33.	**Dec. 10-2010**			SECOND CCEP EXAM

S. No.	Date	No. of working Days	Unit	Topics and Subtopics
34.	**Dec. 13 to 22-2010**	**7**	**Unit-XII**	SECOND TERM EXAMS
35.	**Dec.23 to 24-2010**	**2**	**Unit-XII**	DISCUSSION OF SECOND TERM PAPERS
36.	**Dec. 27 to Jan. 7-2011**			WINTER BREAK
37.	**Jan. 10 to 15-2011**	**6**		REVISION OF QUESTION BANK
38.	**Jan. 17 to 29-2011**	**11**		PRE BOARD EXAMS
39.	**Jan. 31 to 15 Feb. 2011**			FINAL PRACTICAL EXAMS
40.	**Feb. 15-2011 Onwards2**			REVISION OF SAMPLE PAPERS

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