Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur

Lesson Plan

Session 2021- 2022

Class: XI

Subject : CHEMISTY
Book : NCERT

Subject Coordinator
Name: Deepti Mishra

Sign:

Subject Teachers
Name: Mr Arun Sharma
Ms Kirti Sharma
Ms Deepti Mishra

Sign:

Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur

Yearly Syllabus/Planning overview
Session: 2021 - 2022

Subject: Chemistry **Class:** XI **No. of periods:**

Month	Assessed in	Lesson/s to be covered	Period - Count
April	2021	CH-1: Some Basic concept of Chemistry	20
May	2021	CH-2: Atomic structure	7
July	2021	CH-3: Periodic Table CH-4; Chemical bonding	5 14
August	2021	CH-5: Redox Reactions CH-6: Hydrogen CH-7: Environmental Chemistry	7 9 4
September	2021	CH-7: Environmental Chemistry (Continue) CH-8: Equilibrium	5 25
October	2021	CH-9: States of matter CH-10: Thermodynamic	7 13
November	2021	CH-11: General Organic Chemistry	14
December	2021	CH12: Hydrocarbon	17
January	2022	CH13: S-Block Elements CH14: P-Block elements	4 3
February	2022	Revision	

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Monthly Syllabus/Planning overview
Session: 2021 - 2022

Subject: Chemistry **Class:** XI **No. of periods:**

Month	Date/Week		Lesson/s to be covered in classroom
	From	To	
April	19.4.21	24.4.21	Mole Concept
	26.4.21	30.4.21	LR, Empirical and Molecular formula
May	1.5.21	7.5.21	Different type of concentration with Numericals , Introduction of atomic structure
	10.5.21	30.6.21	Summer Break
July	01.7.21	03.7.21	Photo electric effect, Hydrogen Spectrum, etc
	05.7.21	10.7.21	Introduction of Periodic Table ,Chemical Bonding and theories
	12.7.21	17.7.21	Hybridization, Hydrogen Bonding
	19.7.21	24.7.21	MOT, Redox Reaction and balancing
	26.7.21	31.7.21	Elecrochemical Series, hydrogen

August	02.8.21	7.8.21	Water, different softening techniques
	9.8.21	14.8.21	Pollution
	16.8.21	21.8.21	Chemical Equilibrium
	23.8.21	28.8.21	Ionic Equilibrium
	30.8.21	31.8.21	Continue
September	01.9.21	08.9.21	Test-1
	08.9.21	10.9.21	Ostwald dilution, Strength of acid & bases
	13.9.21	18.9.21	Ionisation const, pH
	20.9.21	27.9.21	Related numericals on pH, pOH etc
	28.9.21	02.10.21	Session Break
October	04.10.21	9.10.21	Common ion effect, ,Buffer solution, Solubility Product
	11.10.21	16.10.21	States of Matter
	18.10.21	23.10.21	Introduction to thermodynamics, Enthalpy, Entropy, Hess Law
	25.10.21	12.11.21	Half yearly examination
November	15.11.21	20.11.21	Gibb's free energy, 3rd law
	22.11.21	27.11.21	Introduction to organic chemistry
	29.11.21	30.11.21	IUPAC, Isomerism, Purification methods

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Monthly Syllabus/Planning overview
Session: 2021 - 2022

Subject: Chemistry **Class:** XI **No. of periods:**

Month	Date/Week		Lesson/s to be covered in classroom
	From	To	
December	01.12.21	04.12.21	Qualitative & Quantitative Analysis of organic compound ,
	06.12.21	10.12.21	Hydrocarbons, classification, Alkanes, Alkenes, Alkynes
	13.12.21	20.12.21	Test-2
	21.12.21	25.12.21	Hydrocarbon continue,
	27.12.21	31.12.21	Aromatic Hydrocarbon
	31.12.21	08.01.22	Winter Break
January	10.01.22	15.01.22	p- block elements
	17.1.22	22.1.22	s- block elements
	24.1.22	29.1.22	Revision
	31.1.22	05.2.22	Revision
February	07.02.22	12.02.22	Revision
	14.02.22	19.02.22	Revision
	24.2.22	09.3.22	Annual Examination

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Weekly planning overview

Session: 2021- 2022

Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 1: 19th April to 24st April			**Period Count: 5**
PD1	Laws of Chemical combination ,		
PD2	Daltons atomic Theory, Avogadros Hypothesis.	Numericals	
PD3	Mole Concept (Numericals)	Numericals	
PD4	Mole Concept (Numericals)	Numericals	
PD5	Mole Concept (Numericals) Revision of Numericals of Mole Concept	Numericals	
WEEK 2: 26th April to 01st May			**Period Count: 6**
PD1	Percentage Composition and Molecular Formula	Numericals	
PD2	Numerical of M.F and E.F .	Numericals	
PD3	Stoichiometry of Chemical reactions (Numericals)	Revision at Home	
PD4	Stoichiometry of Chemical reactions (Numericals)	Numericals	
PD5	Limiting Reagent Concept and its Numericals	NCERT back Questions	
PD6	Limiting Reagent Concept and its Numericals	Numericals	

Subject coordinator Supervisor Principal/V. Principal

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Weekly planning overview

Session: 2021- 2022

Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 3: 3rd May to 8th May		**Period Count:5**	
PD1	Types of Concentrations. Molarity and Molality (Numericals)	Numericals	
PD2	Mass and Volume percentage (Numericals)	NCERT Questions	
PD3	Mole Fraction. Parts per million Concept and related Numericals	NCERT Questions	
PD4	Numericals based on Molarity and Molality	NCERT Questions	
PD5	Relation between molarity ,mole fraction and Molality	NCERT Questions	
	Note: 8.5.21 Second Saturday		
WEEK 4: 1st July to 3rd July		**Period Count: 3**	
PD1	Accuracy and precision , Significant figures and their Questions	NCERT Questions	
PD2	Introduction of Atomic structure. Discovery of Cathode Rays.	NCERT Questions	
PD3	Discovery of proton (canal rays) and neutrons, Electromagnetic Wave theory	Revise at Home	

10th may to 30th June Summer vacations

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 5: 5th July to 10th july			**Period Count: 5**
PD1	Photoelectric effect and its Numericals	NCERT Questions	
PD2	Hydrogen spectrum and is numerical	NCERT Questions	
PD3	Quantum no. and their applications	NCERT Questions	
PD4	Hunds rule, Pauli Exclusion principle ,Aufbau Principle Etc.	Revise at Home	
PD5	Introduction of periodic table.(Group and periods) Atomic size of Atoms and Ions and their Variations		
WEEK 6: 12th July to 17th July			**Period Count: 6**
PD1	Isoelectronic ions and their variations ,Concept of Ionisation Energy and their variations along group and period	Conceptual questions	
PD2	Concept of Electron affinity and variations	NCERT Questions	
PD3	Electronagativity and diagonal relationship	NCERT Questions	
PD4	Introduction of Chemical Bonding and types of Bonds		
PD5	Electrovalent bonds and their Properties		
PD6	Covalent bond and their properties		

Holiday 10th July- Second Saturday

Subject coordinator Supervisor Principal/V. Principal

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 7: 19th July to 24th July		**Period Count: 5**	
PD1	Structure of compounds containing covalent and ionic bonds	Structure of compounds	
PD2	Formal Charge, Types of Covalent bonds(sigmaand pi bonds)		
PD3	VSEPR Theory and VBT and their applications		
PD4	Hybridisation and structures		
PD5	Polar and Non –polar covalent bonds		
WEEK 8: 26th july to 31st July		**Period Count: 6**	
PD1	Covalent character in ionic compounds		
PD2	Molecular Orbital Theory and their energy diagrams	Draw energy diagram of O_2^{-2}, F_2^-.	
PD3	Molecular Orbital Theory and their energy diagrams		
PD4	Hydrogen Bonding and Applications and their types.	Conceptual questions	
PD5	Revision of hybridization and Vsepr theory	NCERT questions	
PD6.	Revision		

Subject coordinator Supervisor Principal/V. Principal

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 9: 2nd August to 7th August		**Period Count: 6**	
PD1	Introduction of Redox reactions, Concept of Oxidation and Reduction		
PD2	Oxidation no. With various examples	NCERT ques.	
PD3	Balancing of redox reactions by oxidation method .		
PD4	Balancing of redox reactions by Ion electron method .	Various rections to balance	
PD5	Electrochemical Cell construction and its working		
PD6	Concept of electrode Potential and electrochemical series	NCERT questions	
WEEK 10: 9th August to 13th August		**Period Count: 5**	
PD1	Applications of electrochemical series	Examples	
PD2	Position of Hydrogen its occurrence and Isotopes	Learn at Home	
PD3	Preparation ,Properties and Uses of Hydrogen	Learn at Home	
PD4	Types of Hydrides(ionic ,covalent,etc)		
PD5	Physical chemical properties of Water	NCERT questions	

HOLIDAY: 14th August SECOND SATURDAY

Subject coordinator Supervisor Principal/V. Principal

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 11: 16th August to 21st August		**Period Count: 5**	
PD1	Hard and Soft water Concept	Learn at Home	
PD2	Softening of Hard Water by Various methods	Learn at Home	
PD3	Concept of Heavy Water		
PD4	Preparation , properties of hydrogen peroxide	Numericals	
PD5	Structure of Water and ice	NCERT back questions	
WEEK 12: 23rd August to 28th August		**Period Count: 6**	
PD1	Air ,Water and Soil Pollution		
PD2	Acid Rain. Ozone layer and its Depletion	Learn at Home	
PD3	Global Warming and its effect	Learn at Home	
PD4	Photochemical Smog ,effects and its control	NCERT back questions	
PD5	Introduction of Equilibrium		
PD6	Law of Chemical Equilibrium		

Subject coordinator Supervisor Principal/V. Principal

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WEEK 13: 30th August to 4th Sept		**Period Count: 6**	
PD1	Physical and Chemical process in Equilibrium	Learn at Home	
PD2	equilibrium constant	Learn at Home	
PD3	Applications of Law of mass action		
PD4	Factors affecting equilibrium and Le- Chateliers Principal	Numericals	
PD5	Numericals based on equilibrium contant	NCERT back questions	
PD6	Introduction of Ionic equilibrium		
WEEK 14: 6th Sept to 11th Sept		**Period Count: 5**	
PD1	Electrolytes and non electrolytes and their types		
PD2	Degree of dissociation and their numericals	Learn at Home	
PD3	Various concept of acids and Bases	NCERT back questions	
PD4	Various concept of acids and Bases	NCERT back questions	
PD5	Revision		

1st Sept to 8th Sep – Test 1

11th Sept : Second saturday

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 15: 13th Sept to 18th Sept		**Period Count: 6**	
PD1	Dissociation of acid and bases	Learn at Home	
PD2	Calculation of degree of dissociation for weak acid and weak base	Learn at Home	
PD3	Ostwald dilution Law		
PD4	Strength of acid and bases	Numericals	
PD5	Factors affecting acid strength ,	NCERT back questions	
PD6	Relative strength of conjugate acid and base pair		
WEEK 16: 20th sep to 25th Sep		**Period Count: 6**	
PD1	Relative strength of conjugate acid and base pair		
PD2	Ionisation constant of Water and its ionic product	Learn at Home	
PD3	PH- Scale and its applications		
PD4	Numericals based on PH scale	NCERT back questions	
PD5	pOH and related Numericals	Numericals	
PD6	NCERT Questions	Numericals	

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 17: 27th sep to 2nd Oct		**Period Count: 5**	
PD1	Common ion effect and its applications	Learn at Home	
PD2	Buffer solutions and its types	Learn at Home	
PD3	Solubility Product and its applications		
PD4	Numerical based on solubility product	Numericals	
PD5	Hydrolysis of Salts and its types	NCERT back questions	
2nd oct : Gandhi Jayanti			
WEEK 18: 4th Oct to 9th Oct		**Period Count: 5**	
PD1	Introduction of States of matter		
PD2	Various types of Intermolecular interaction .	Learn at Home	
PD3	Laws of gases (Boyles,Charles and Avogadros Law etc.)		
PD4	Numericals of various laws	NCERT back questions	
PD5	Numericals		

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 19: 11th Oct to 16th Oct		**Period Count: 4**	
PD1	Surface Tension and its applications	Learn at Home	
PD2	Viscosity and its applications	Learn at Home	
PD3	Numercals of states of matter	NCERT back questions	
PD4	Introduction of Thermodynamics		
PD5	Different types of systems and surrounding		
Dussehra holidays: 14th Oct to 15th Oct			
Week-20; 18th oct to 23rd oct		**Period Count: 6**	
PD1	State functions and path functions		
PD2	Thermodynamic processes(Isothermal, isobaric ,adiabatic and isochoric etc.)	Learn at Home	
PD3	Thermodynamic Processes Continue	Revision	
PD4	Intensive and Extensive properties	Revise	
PD5	Internal Energy		
PD6	Revision		

Half yearly examination: 25th Oct to 12th Nov

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 21: 15th Nov to 20th Nov		**Period Count: 6**	
PD1	Enthalpy and enthalpy changes, heat capacity ,Specific heat and Molar heat capacity.	Learn at Home	
PD2	Enthalpy change of a reaction ,	Learn at Home	
PD3	Hess Law of constant summation and its numerical		
PD4	Numerical of Hess Law	Numericals	
PD5	1st ans 2nd Law of thermodynamics with its limitations	NCERT back questions	
PD6	Gibbs free energy and its spontainity		
WEEK 22: 22nd Nov to 27th Nov		**Period Count: 6**	
PD1	Standard free energy change of a reaction		
PD2	Concept of entropy and its applications	Learn at Home	
PD3	3rd Law of thermodynamics and numericals		
PD4	Introduction of organic chemistry		
PD5	Distinction between organic and inorganic compounds		
PD6	Structural representation of organic molecules	NCERT back questions	

4th to 6th November Diwali Holiday

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 23: 29th Nov to 4th Dec		**Period Count: 6**	
PD1	Classification and IUPAC of organic compounds	Learn at Home	
PD2	IUPAC of organic compounds	Learn at Home	
PD3	IUPAC of organic compounds		
PD4	Isomerism and its types	Numericals	
PD5	Fundamental concept of organic reaction mechanism	NCERT back questions	
PD6	Reaction intermediates ,electrophile and Nucleophile,Electron displacement effect in covalent bonds	NCERT back questions	
WEEK 24: 6th dec to 11th Dec		**Period Count: 5**	
PD1	Types of Organic rections and mechanism		
PD2	Methods of purification of organic compounds	Learn at Home	
PD3	Methods of purification of organic compounds	Learn at Home	
PD4	Qualitative and Quantitative analysis of organic compounds		
PD5	Qualitative and Quantitative analysis of organic compounds	NCERT questions	

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 25: 13th Dec to 18th Dec		**Period Count: 6**	
PD1	Introduction of Hydrocarbon, Classification of Hydrocarbon	Learn at Home	
PD2	Isomerism in alkanes, method of preparation of alkanes	Learn at Home	
PD3	method of preparation of alkanes and chemical properties		
PD4	chemical properties of Alkanes	Learn reactions	
PD5	chemical properties of Alkanes	NCERT back questions	
PD6	Conformation of Alkanes		
11th Dec (Second Saturday) **13th Dec to 20th Dec- Test 2**			
WEEK 26: 20th Dec to 25th Dec		**Period Count:5**	
PD1	General method of preparation of Alkenes		
PD2	General method of preparation of Alkenes, and physical properties	Learn at Home	
PD3	Chemical properties of Alkenes		
PD4	Methods of Preparation of Alkynes and Physical properties		
PD5	Aromatic Hydrocarbon , Isomerism in Arenes , Structure of Benzene Chemical Properties of Alkynes	NCERT back questions	

25th Dec: Christmas Holiday

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 27: 27th Dec to 30th Dec		**Period Count: 4**	
PD1	Aromaticity , Methods of preparation of benzene	Learn at Home	
PD2	Physical and chemical properties of Arenes	Learn at Home	
PD3	Mechanism of Electrophilic reactions		
PD4	Directive influence of Functional group in mono substituted Benzene	NCERT back questions	
31st Dec to 8th Jan : Winter break			
WEEK 28: 10th Jan to 15th jan		**Period Count: 5**	
PD1	Introduction of S-Block elements,		
PD2	Method of Prepration of Washing Soda by Solvay Process. And its properties	Learn at Home	
PD3	Preparation of Quick lime ,Slaked lime		
PD4	Preparation and properties of plaster of Paris		
PD5	Continue.		

15th jan : Second saturday

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 29: 17th Jan to 22nd Jan		**Period Count: 6**	
PD1	Concept of Fullerenes and its Properties	Learn at Home	
PD2	Silicones ,its preparation and use, Zeolites	Learn at Home	
PD3	Introduction of P-block elements .		
PD4	Allotropes of Carbon	Revision	
PD5	diamond and Graphite	Revision	
PD6	Fullerene		
WEEK 30: 24th Jan to 29th Jan		**Period Count: 6**	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision		
PD5	Revision		
PD6	Revision		

26th jan (Republic Day)

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Subject : Chemistry **Class :** XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 31: 31st Jan to 5th Feb		**Period Count: 6**	
PD1	Revision	Learn at Home	
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision	Numericals	
PD5	Revision	NCERT back questions	
WEEK 32: 7th feb to 12th Feb		**Period Count: 5**	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision	NCERT ques.	
PD4	Revision		
PD5	Revision		

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Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 31: 14th Feb to 19th Feb		**Period Count: 6**	
PD1	Revision	Learn at Home	
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision	Numericals	
PD5	Revision	NCERT back questions	
WEEK 32: 21st feb to 23rd Feb		**Period Count: 3**	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision	NCERT ques.	

24th Feb 2022 to 9th March 2022(Annual Examination)