

Dayanand Mahila Mahavidyalaya, Kurukshetra**Lesson Plan (Odd Semester)**

Session 2023-24 (04.08.2023 to 24.11.2023)

Name of teacher: Mrs. Asha Malik

Subject Chemistry

Date	Class B.Sc N.M (Major)	Class B.Sc N.M (Minor)	Class B.A. (MDC)
	Semester I	Semester I	Semester I
04.08.2023		Orientation Day	
05.08.2023	kinetic molecular theory of gases ,maxwell distribution of velocities and energies		
07.08.2023			Chapter 1 introduction of atomic structure,Dalton Theory,Atomic number,mass number
08.08.2023			Bhor theory of atom, concept of electron,proton,neutron
09.08.2023	calculation of root mean square velocity, average velocity and most probable velocity		
10.08.2023	collision diameter, collision number, collision frequency, mean free path, numericals	Chapter 2. Introduction , Rate of reaction, rate equation	
11.08.2023	deviation of real gases from ideal behaviour , derivation of van der waals equation	factors effecting rate of reaction , order of reaction, molecularity of reaction ,numerical problems related to them	
12.08.2023			
14.08.2023			Valency,valence electrons,electronic configuration (1-30)
15.08.2023	Independence Day		
16.08.2023	calculation of boyle's temperature ,critical temperature, pressure,volume, numericals		
17.08.2023	PV Isotherms of real gases, continuity of states	Integrated rate expression of zero order reaction and it's characteristics	
18.08.2023	The isotherms of Van-der-Waals equations, Relationship between critical constant and Van-der-Waal's constant	Integrated rate expression of first order reaction and it's characteristics , numerical problems of first order reaction	
19.08.2023			
21.08.2023			Chemical bonding
22.08.2023			Representation of elements,lewis structure
23.08.2023	Test		

Date	Class B.Sc N.M (Major)	Class B.Sc N.M (Minor)	Class B.A. (MDC)
	Semester I	Semester I	Semester I
24.08.2023	Chapter: structure and bonding -localised and delocalised chemical bond , van de waals interactions	Integrated rate expression of second order reaction and it's characteristics	
25.08.2023	resonance conditions, resonance effect and application	test of Chapter chemical Kinetics	
26.08.2023			
28.08.2023			test of dalton theory ,bhor theory,valency
29.08.2023			Chapter 2 introduction of carbon ,teravalency of carbon
30.08.2023	Raksha Bandhan		
31.08.2023	hyperconjugation, inductive effect, electomeric effect.	Chapter 3 Valence bond theory , and its limitation	
01.09.2023	revision+doubts	Directional characteristics of covalent bond , hybirdisation of BeF2,BF3,CH4 ,PF5 ,SF6, IF7, SO42- ,ClO4- , NO3- ,ClO3-	
02.09.2023			
04.09.2023			allotropes of carbon and their properties
05.09.2023			hydrocarbons introduction
06.09.2023	Janamashtmi		
07.09.2023	Mechanism of organic reaction : Curved arrow notation, Drawing electron movementsd with arrows, Half headed and double headed arrows		
08.09.2023	test of structure and bonding	VSPER theory and shapes NH3 , H3O+, SF4, ClF3 ,H2O, SnCl4, ClO3- , ICl2- , Molecular orbital theory	
09.09.2023			
11.09.2023			hydrocarbons (1-5)
12.09.2023			nomenclatureof hydrocarbons
13.09.2023	Homolytic and heterolytic bond breaking, types of reagents and organic reactions		
14.09.2023	Reactive intermediates, Carbocations carbanions	discussion of N2, O2, CO, NO ,Bond energy, Bond length, dipole moment, percentage ionic character	
15.09.2023	Free radical, Carbenes	chapter 4 IUPAC nomenclature of alkanes and cycloalkanes ,classification of carbons Isomerism and Physical properties	

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	Semester I	Semester I	Semester I
16.09.2023			
18.09.2023			test of chapter 1
19.09.2023			applications of hydrocarbons
20.09.2023	Structure of liquids , Properties of liquid	test of VSPER theory	
21.09.2023	Surface tension, Refractive index, Viscosity, Vapour Pressure and optical rotation	method of formation of alkanes	
22.09.2023	test		
23.09.2023	Shaheedi Diwas/Haryana War Heroes' Martyrdom Day		
25.09.2023			test of allotropes of carbon
26.09.2023			Chapter Polymer introduction,syntheticand natural polymer
27.09.2023	Classification of solids, Symmetry Elements		
28.09.2023	test of liquid state	mechanism of free radical,reactivity and selectivity	
29.09.2023	Law of constancy of interfacial angles ,Law of Rational indices, Miller indices	test of covalent bond	
30.09.2023			
02.10.2023	Mahatma Gandhi Jayanti		
03.10.2023			revision of elctronic configuration(1-30)
04.10.2023	Test		
05.10.2023	Elementary ideas of symmetry and symmetrical elements	Metallic bond , theories of metallic bond (conductors, semiconductors,insulators)	
06.10.2023	Seven crystal systems and 14 Bravias Lattices	test of numericals first order reaction	
07.10.2023			
09.10.2023			homopolymers,copolymers, uses and properties of natural rubber
10.10.2023			uses and properties of vulcanised rubber,polythene,PVC,styrene
11.10.2023	Space groups,numerical		
12.10.2023	Bragg's Law, Laue's method, Rotating crystal method and powder pattenen method	semiconductors - introduction ,types,band model	
13.10.2023	Test of solid state	test of methods of formation of alkanes	
14.10.2023			
16.10.2023			uses and properties of teflon,PAN,Nylon-66
17.10.2023			test of nomenclatureof hydrocarbons

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	Semester I	Semester I	Semester I
18.10.2023	Chapter 2 classification of periodic table into s, p, d, f block, atomic radii & ionic radii		
19.10.2023	Ionisation energy, electron affinity	application of semiconductors	
20.10.2023	Electronegativity, Pauling, Mulliken, Allred Rachow & Mulliken Jaffe scale	test of alkanes	
21.10.2023			
23.10.2023			Chapter 4 introduction of natural and synthetic food preservatives, rancidity
24.10.2023	Dussehra		
25.10.2023	Chapter 1 de Broglie, Heisenberg uncertainty principle, atomic orbitals		
26.10.2023	Quantum numbers, shapes of s, p, d, f orbitals	revision of molecular orbital theory	
27.10.2023	radial and angular wave function and probability distribution curves	revision semiconductors	
28.10.2023	Maharishi Valmiki Jayanti		
30.10.2023			uses and properties of rancidity, different food preservation processes
31.10.2023			test of polymers
01.11.2023	Haryana Day		
02.11.2023	Aufbau & Pauli exclusion Principle, Hund multiplicity, electronic configuration	test of semiconductors	
03.11.2023	Effective nuclear charge, Slater rule	revision of chemical kinetics	
04.11.2023			
06.11.2023			artificial sweeteners, their uses and properties
07.11.2023			revision of Chapter 2
08.11.2023	numericals of Slater rule		
09.11.2023	revision and doubt	revision of alkanes	
10.11.2023 to 16.11.2023	Diwali Vacations		
17.11.2023	test of atomic structure	test of metallic bond	
18.11.2023			
20.11.2023			test of Chapter 3
21.11.2023			revision of Chapter 4
22.11.2023	revision		
23.11.2023	revision	revision	
24.11.2023	revision	revision	
25.11.2023	Examinations Onwards		

Dayanand Mahila Mahavidyalaya, Kurukshetra

Lesson Plan (Odd Semester)

Session 2023-24 (04.08.2023 to 24.11.2023)

Name of teacher: Mrs. Asha Malik

Subject Chemistry

Date	Class B.Sc.III(N.M.)	Class B.Sc.III(N.M.)	Class.....
	Semester V(inorganic Chemistry)	Semester V(Physical Chemistry)	Semester.....
04.08.2023			
05.08.2023			
07.08.2023	Limitations of Valence Bond theory,introduction of crystal field theory ,Crystal Field Splitting in Octahedral complexes		
08.08.2023			
09.08.2023		Chapter 1 Introduction, Principle of NMR, PMR spectra	
10.08.2023		number of signals, peak area, equivalent and non equivalent protons	
11.08.2023			
12.08.2023			
14.08.2023	Crystal Field Splitting in Tetrahedral and Square planar Complexes, Factors affecting Crystal field splitting		
15.08.2023	Independence Day		
16.08.2023		position of signals, chemical shift, shielding and deshielding of protons	
17.08.2023		proton counting, splitting of signal, coupling constants	
18.08.2023			
19.08.2023			
21.08.2023	Revision of Chapter 1		
22.08.2023			
23.08.2023		magnetic equivalence, PMR spectra of ethyl bromide, n-propyl bromide, isopropyl bromide, 1,1-dibromoethane	
24.08.2023		1,1,2-tribromoethane, ethanol, acetaldehyde, ethyl acetate, toluene, benzaldehyde, acetophenone	
25.08.2023			
26.08.2023			
28.08.2023	Chapter 4 introduction, electron absorption spectroscopy, Term Symbols		
29.08.2023			
30.08.2023	Raksha Bandhan		
31.08.2023		Problems on PMR for structure determination	
01.09.2023			
02.09.2023			

Date	Class B.Sc.III(N.M.)	Class B.Sc.III(N.M.)	Class.....
	Semester V(Inorganic Chemistry)	Semester V(Physical Chemistry)	Semester.....
04.09.2023	coupling scheme, selection rules for d-d transition		
05.09.2023			
06.09.2023	Janamashtmi		
07.09.2023		test of NMR Spectroscopy	
08.09.2023			
09.09.2023	Orgel energy diagram d 9 states		
11.09.2023	Spectroscopic Ground States		
12.09.2023			
13.09.2023		Chapter 2 classification and nomenclature of carbohydrates, monosaccharides	
14.09.2023		mechanism of osazone formation, interconversion of glucose and fructose, chain lengthening and shortening of aldoses	
15.09.2023			
16.09.2023			
18.09.2023	test of chapter 1		
19.09.2023			
20.09.2023		configuration of monosaccharides, erythrose and threo diastereomers, conversion of glucose into mannose	
21.09.2023		formation of glycosides, ethers, esters, determination of ring size of glucose and fructose	
22.09.2023			
23.09.2023	Shaheed Diwas/Haryana War Heroes' Martyrdom Day		
25.09.2023	Spectrochemical series, Orgel energy diagram d 1 states		
26.09.2023			
27.09.2023		open chain and cyclic structure of D-Glucose and fructose	
28.09.2023		mechanism of mutarotation, structure of ribose and deoxyribose	
29.09.2023			
30.09.2023			
02.10.2023	Mahatma Gandhi Jayanti		
03.10.2023			
04.10.2023		test of osazone formation, mutarotation, chain lengthening and shortening	
05.10.2023		disaccharides, polysaccharides	
06.10.2023			
07.10.2023			
09.10.2023	Orgel energy diagram d9 states, Electronic spectra of Ti complex ion		
10.10.2023			
11.10.2023		revision of carbohydrates	
12.10.2023		test of numerical problems of NMR	
13.10.2023			

Date	Class B.Sc.III(N.M.)	Class B.Sc.III(N.M.)	Class.....
	Semester V(inorganic Chemistry)	Semester V(Physical Chemistry)	Semester.....
14.10.2023			
16.10.2023	test of chapter 2		
17.10.2023			
18.10.2023		Chapter 3 introduction of organometallic compounds, formation of grignard reagent,structure	
19.10.2023		chemical reactions of grignard reagent	
20.10.2023			
21.10.2023			
23.10.2023	Chapter 3 Types of magnetic materials,magnetic susceptibility		
24.10.2023	Dussehra		
25.10.2023		test of carbohydrates	
26.10.2023		organozinc compound ,formation and chemical reaction	
27.10.2023			
28.10.2023	Maharishi Valmiki Jayanti		
30.10.2023	methods of determining magnetic susceptibility,spin only formula		
31.10.2023			
01.11.2023	Haryana Day		
02.11.2023		organolithium compounds,formation and chemical reactions	
03.11.2023			
04.11.2023			
06.11.2023	L-S coupling,orbital contribution to magnetic moments		
07.11.2023			
08.11.2023		revision of chapter 3	
09.11.2023		test of grignard reagents	
10.11.2023 to 16.11.2023	Diwali Vacations		
17.11.2023			
18.11.2023			
20.11.2023	Applications of magnetic moment,revision of chapter		
21.11.2023			
22.11.2023		revision	
23.11.2023		revision	
24.11.2023			
25.11.2023	Examinations Onwards		

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Lesson Plan (Odd Semester)

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Name of teacher: mrs Rajwant kaur

Subject.....chemistry.....

Date	Class B.Sc-2nd year.....	Class...B.Sc-3rd year.....
	Semester...3rd.....	Semester...5th.....
04.08.2023	introduction of thermodynamics	introduction of quantum mechanics black radiations
05.08.2023	some common Thermodynamics terms	plank's law, photoelectric effect, postulates of quantum mechanics
07.08.2023	state of a system and state variable	
08.08.2023	thermodynamics process	
09.08.2023		
10.08.2023		
11.08.2023	first law of thermodynamics	operator, commutation relations, role of operator
12.08.2023	concept of internal energy	average value of square of momentum as a positive quantity
14.08.2023	joule thomson coefficient for ideal gas and real gas	
15.08.2023	Independence Day	
16.08.2023		
17.08.2023		
18.08.2023	calculation of w, q, dU and dH for expansion of ideal gases under isothermal and adiabatic conditions	one dimension box and test
19.08.2023	adiabatic condition for reversible process	revision
18.08.2023	calculation of w, q, dU and dH for expansion of ideal gases under isothermal and adiabatic conditions	
20.08.2023	sunday	sunday
21.08.2023	introduction chemical equilibrium	
22.08.2023	concept of chemical potential	
23.08.2023		
24.08.2023		
25.08.2023	thermodynamics derivation of chemical equilibrium	introduction of physical properties and molecular structure
26.08.2023	temperature dependence of equilibrium constant	optical activity, polarization, orientation of dipoles in an electric field, dipole moment
28.08.2023	clausius clapeyron equation and its application	
29.08.2023	test and assignment	
30.08.2023	Raksha Bandhan	
31.08.2023		
01.09.2023	introduction of distribution law	measurement of dipole moment temperature method and refractivity method, dipole moment and structure of molecules
02.09.2023	nernst distribution law its thermodynamics derivation	magnetic permeability, magnetic susceptibility and determination
04.09.2023	application of distribution law	
05.09.2023	process of extraction	
06.09.2023	Janmashtmi	
07.09.2023		

Date	Class B.Sc-2nd year.....	Class...B.Sc-3rd year.....
	Semester...3rd.....	Semester...5th.....
08.09.2023	introduction of inorganic	application of magnetic susceptibility
09.09.2023	introduction of d block elements	test and revision
11.09.2023	definition of transition element	
12.09.2023	position in periodic table	
13.09.2023		
14.09.2023		
15.09.2023	comprision of 3d elements with 4d and 5d elements	introduction of spectroscopy and statement of born oppenheimer approximation,degree of freedom
16.09.2023	stablity of various oxidation states	rotational spectrum -slection rules, energy levels of rigid rotator,diatomic molecules
18.09.2023	structure and properties of some compound of transition elements	
19.09.2023	test	
20.09.2023		
21.09.2023		
22.09.2023	introduction of coordination compounds	determinnation of bond length and isotopic effect.
23.09.2023	Shaheedi Diwas/Haryana War Heroes' Martyrdom Day	
25.09.2023	effective atomic number chelates	
26.09.2023	nomenclature of coordination compound	
27.09.2023		
28.09.2023		
29.09.2023	valence bond theory of transition metal complex	vibrational spectrum-slection rules,energy levels of harmonic oscillator
30.09.2023	intoroduction of non aqueous solvent and their general characteristics	determination of force constant and qualitative relation of force constant
02.10.2023	Mahatma Gandhi Jayanti	
03.10.2023	reaction in non aqueous solvent	
04.10.2023		
05.10.2023		
06.10.2023	introduction organic chemistry and alcohols	ideal of vibrational frequencies of different functional group
07.10.2023	monohydrate alcohol -nomenclature,method of formation by reduction of aldehydes,ketones and corboxylic acid	introduction of polarization of raman spectrum
09.10.2023	hydrogen bonding acidic nature	
10.10.2023	reactions of alcohol dihydric alcohols	
11.10.2023		
12.10.2023		
13.10.2023	chemical reaction glycols, oxidation cleavage and pinacol pincolone reaarrrangment	pure rotational and pure vibration raman spectra of diatomic molecules,slection rules
14.10.2023	phenols nomenclature structure and bonding	quantum theory of raman spectra
16.10.2023	preparation of phenols, physical properties and acidic character	
17.10.2023	comparative acidic strength of alcohols and phenols, resonance stabilization of phenoxide ion	
18.10.2023		
19.10.2023		

Date	Class B.Sc-2nd year.....	Class...B.Sc-3rd year.....
	Semester...3rd.....	Semester...5th.....
20.10.2023	reaction of phenols electrophilic aromatic substitution, mechanism of Fries rearrangement, Claisen rearrangement, Reimer-Tiemann reaction	test and revision
21.10.2023	Kolbe reaction and Schotten and Baumann reactions	introduction of inorganic and thermodynamics and kinetic aspects of metal complexes
23.10.2023	introduction of epoxides, acid and base catalyzed ring opening of epoxide, orientation of epoxide ring opening, reaction of Grignard and organolithium reagents with epoxide	
24.10.2023	Dussehra	
25.10.2023		
26.10.2023		
27.10.2023	ultra violet absorption spectroscopy	a brief outline of thermodynamics stability of metal complexes
28.10.2023	Maharishi Valmiki Jayanti	
30.10.2023	molar absorptivity, presentation and analysis of UV spectra	
31.10.2023	types of electronic transition, effect of conjugation	
01.11.2023	Haryana Day	
02.11.2023		
03.11.2023	UV spectra of conjugated enes and enones, Woodward-Fieser rules and enones	factor affecting the stability
04.11.2023	λ_{max} of simple conjugated dienes and α,β unsaturated ketones	Irving-Williams series, substitution reaction of square planar complexes of Pt, trans effect
06.11.2023	application of UV spectroscopy	
07.11.2023	test	
08.11.2023		
09.11.2023		
10.11.2023 to 16.11.2023		Diwali Vacations
17.11.2023	introduction of carboxylic acid and acidity structure and bonding, physical properties acidity of carboxylic acid	test and revision
18.11.2023	preparation of carboxylic acid	revision
20.11.2023	LiAlH ₄ reduction and Ziegler-Natta reaction, reduction of carboxylic acids	
21.11.2023	relative stability of acyl derivatives, physical properties and mechanisms	
22.11.2023	revision	
23.11.2023	revision	
24.11.2023	revision	revision
25.11.2023	Examinations Onwards	