

Lesson Plan (2023-24)-Even Semester

Name of the Assistant Professor: Mr. Vipin

Class and Section: B.Sc. IIIrd year (6th semester)

Subject: Chemistry (Organic Chemistry)

WEEK	DATE	TOPICS
1	15.01.2024	
	16.01.2024	
	17.01.2024	Guru Gobind Singh Jayanti
	18.01.2024	
	19.01.2024	Introduction of Unit-I - Heterocyclic Compounds-I
	20.01.2024	Molecular orbital picture and aromatic characteristics of pyrrole, furan, thiophene and pyridine
2	22.01.2024	
	23.01.2024	
	24.01.2024	
	25.01.2024	
	26.01.2024	Republic Day
	27.01.2024	Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution
3	29.01.2024	
	30.01.2024	
	31.01.2024	
	01.02.2024	
	02.02.2024	Mechanism of nucleophilic substitution reactions in pyridine derivatives
	03.02.2024	Comparison of basicity of pyridine, piperidine and pyrrole
4	05.02.2024	
	06.02.2024	
	07.02.2024	
	08.02.2024	
	09.02.2024	Introduction of Unit-II- Heterocyclic Compounds-II
	10.02.2024	Introduction to condensed five and six- membered heterocycles
5	12.02.2024	
	13.02.2024	
	14.02.2024	Basant Panchami/ Sir Chhotu Ram Jayanti
	15.02.2024	

	16.02.2024	Preparation and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis
	17.02.2024	Skraup synthesis and Bischler-Napieralski synthesis
6	19.02.2024	
	20.02.2024	
	21.02.2024	
	22.02.2024	
	23.02.2024	Mechanism of electrophilic substitution reactions of, quinoline and isoquinoline
	24.02.2024	Guru Ravidas Jayanti
7	26.02.2024	
	27.02.2024	
	28.02.2024	
	29.02.2024	
	01.03.2024	Nomenclature, structural features, Methods of formation and chemical reactions of thiols, thioethers, sulphonic acids
	02.03.2024	sulphonamides and sulphaguanidine. Synthetic detergents alkyl and aryl sulphonates
8	04.03.2024	
	05.03.2024	
	06.03.2024	
	07.03.2024	
	08.03.2024	Maha Shivratri
	09.03.2024	Test-1 (Unit-I and II)
9	11.03.2024	
	12.03.2024	
	13.03.2024	
	14.03.2024	
	15.03.2024	Unit-III - Organic Synthesis via Enolates
	16.03.2024	Acidity of α -hydrogens, alkylation of diethyl malonate and ethyl acetoacetate
10	18.03.2024	
	19.03.2024	
	20.03.2024	
	21.03.2024	
	22.03.2024	Synthesis of ethyl acetoacetate: the Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate
	23.03.2024	Holi Vacation
11	25.03.2024	Holi Vacation

	26.03.2024	Holi Vacation
	27.03.2024	Holi Vacation
	28.03.2024	Holi Vacation
	29.03.2024	Holi Vacation
	30.03.2024	Holi Vacation
12	01.04.2024	
	02.04.2024	
	03.04.2024	
	04.04.2024	
	05.04.2024	Synthetic Polymers- Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization
	06.04.2024	Ziegler-Natta polymerization and vinyl polymers. Condensation or step growth polymerization. Polyesters, polyamides, phenol formaldehyde resins
13	08.04.2024	
	09.04.2024	
	10.04.2024	
	11.04.2024	Id-ul-Fitr
	12.04.2024	urea formaldehyde resins, epoxy resins and polyurethanes. Natural and synthetic rubbers.
	13.04.2024	Vaisakhi
14	15.04.2024	Unit-IV- Amino Acids, Peptides & Proteins Classification, of amino acids. Acid-base behavior, isoelectric point and electrophoresis
	16.04.2024	Preparation of α -amino acids. Structure and nomenclature of peptides and proteins.
	17.04.2024	Ram Navmi
	18.04.2024	Classification of proteins. Peptide structure determination,
	19.04.2024	end group analysis, selective hydrolysis of peptides. Classical peptide synthesis, solid-phase peptide synthesis
	20.04.2024	Structures of peptides and proteins: Primary & Secondary structure
15	22.04.2024	Test-2 (Unit-III and IV)
	23.04.2024	Revision

Lesson Plan (2023-24)-Even Semester

Name of the Assistant Professor: Mr. Vipin

Class and Section: M.Sc. Chemistry (2nd semester)

Subject: Chemistry (Polymers Materials)

WEEK	DATE	TOPICS
1	15.01.2024	UNIT-I- Introduction
	16.01.2024	General introduction to polymers with emphasis on important concepts such as monomers
	17.01.2024	Guru Gobind Singh Jayanti
	18.01.2024	precautions and synthesis of some monomers
	19.01.2024	functionality and physical state (amorphous and crystalline)
	20.01.2024	classification of polymers on the basis of source
2	22.01.2024	elemental composition, heat, pressure
	23.01.2024	chemical reactivity, Chemical/monomer composition
	24.01.2024	geometry and stereo regularity
	25.01.2024	Concept of molecular weight,
	26.01.2024	Republic Day
	27.01.2024	Nomenclature of Polymers
3	29.01.2024	UNIT-II- Introduction
	30.01.2024	Chemistry and mechanism of Polymerization
	31.01.2024	Definition of polymerization, Factors affecting on polymerization
	01.02.2024	Addition polymerization (free radical, ionic and co-ordination polymerizations)
	02.02.2024	Condensation polymerization
	03.02.2024	molecular weight in step growth polymerization,
4	05.02.2024	Ring opening polymerization. Photo polymerization,
	06.02.2024	Electro chemical Polymerization, Metathesis polymerization,
	07.02.2024	Group transfer polymerization- synthesis and applications
	08.02.2024	Test-1 (Unit- I and II)
	09.02.2024	Doubt Class
	10.02.2024	Doubt Class
5	12.02.2024	UNIT-III- Introduction
	13.02.2024	Thermoplastics- Polyolefin
	14.02.2024	Basant Panchami/ Sir Chhotu Ram Jayanti
	15.02.2024	allied polymers
	16.02.2024	Vinyl polymers - Styrene and its copolymers,

	17.02.2024	Acrylics
6	19.02.2024	Polyamides
	20.02.2024	Polyesters,
	21.02.2024	PU
	22.02.2024	Cellulose and its derivatives
	23.02.2024	Cellulose and its derivatives
	24.02.2024	Guru Ravidas Jayanti
7	26.02.2024	Cellulose and its derivatives
	27.02.2024	Cellulose and its derivatives
	28.02.2024	Polycarbonates, Polyacetals
	29.02.2024	Polycarbonates, Polyacetals
	01.03.2024	Polycarbonates, Polyacetals
	02.03.2024	Polycarbonates, Polyacetals
8	04.03.2024	Polyacrylic acid, PVA, Polyvinyl acetals
	05.03.2024	Polyacrylic acid, PVA, Polyvinyl acetals
	06.03.2024	Polyacrylic acid, PVA, Polyvinyl acetals
	07.03.2024	Polyacrylic acid, PVA, Polyvinyl acetals
	08.03.2024	Maha Shivratri
	09.03.2024	Polyacrylic acid, PVA, Polyvinyl acetals
9	11.03.2024	Thermosets- PF
	12.03.2024	MF, UF
	13.03.2024	MF, UF
	14.03.2024	Epoxy resins
	15.03.2024	Epoxy resins
	16.03.2024	Unsaturated polyester, Vinyl esters
10	18.03.2024	Unsaturated polyester, Vinyl esters
	19.03.2024	Cyanate esters, Furan resins and silicone polymers
	20.03.2024	Cyanate esters, Furan resins and silicone polymers
	21.03.2024	Test-2 (Unit- III)
	22.03.2024	Doubt Class
	23.03.2024	Holi Vacation
11	25.03.2024	Holi Vacation
	26.03.2024	Holi Vacation
	27.03.2024	Holi Vacation
	28.03.2024	Holi Vacation

	29.03.2024	Holi Vacation
	30.03.2024	Holi Vacation
12	01.04.2024	UNIT-IV- Introduction
	02.04.2024	Elastomers- Natural Rubber
	03.04.2024	isoprene rubber, butyl rubber
	04.04.2024	isoprene rubber, butyl rubber
	05.04.2024	Nitrile rubber
	06.04.2024	chloroprene Rubber
13	08.04.2024	chloroprene Rubber
	09.04.2024	Styrene-butadiene Rubber
	10.04.2024	Styrene-butadiene Rubber
	11.04.2024	Id-ul-Fitr
	12.04.2024	EPDM, Vulcanization, Rubber chemicals
	13.04.2024	Test-3 (Unit- IV)
14	15.04.2024	Doubt Class
	16.04.2024	Revision
	17.04.2024	Ram Navmi
	18.04.2024	Revision
	19.04.2024	Revision
	20.04.2024	Revision
15	22.04.2024	Solved question papers
	23.04.2024	Solved question papers

Lesson Plan (2023-24)-Even Semester

Name of the Assistant Professor: Mr. Vipin

Class and Section: B.Sc. Ist year (2nd semester)

Subject: Chemistry (Inorganic Chemistry)

WEEK	DATE	TOPICS
1	15.01.2024	Introduction of Unit-I- Hydrogen Bonding & Vander Waals Forces
	16.01.2024	Hydrogen Bonding – Definition, Types, effects of hydrogen bonding on properties of substances
	17.01.2024	Guru Gobind Singh Jayanti
	18.01.2024	
	19.01.2024	
	20.01.2024	
2	22.01.2024	Application Brief discussion of various types of Vander Waals Forces
	23.01.2024	Metallic Bond and Semiconductors, Metallic Bond- Brief introduction to metallic bond
	24.01.2024	
	25.01.2024	
	26.01.2024	Republic Day
	27.01.2024	
3	29.01.2024	band theory of metallic bond Semiconductors- Introduction, types and applications.
	30.01.2024	Introduction of Unit-II- s-Block Elements
	31.01.2024	
	01.02.2024	
	02.02.2024	
	03.02.2024	
4	05.02.2024	Comparative study of the elements including
	06.02.2024	diagonal relationships, salient features of hydrides (methods of preparation excluded)
	07.02.2024	
	08.02.2024	
	09.02.2024	
	10.02.2024	
5	12.02.2024	solvation and complexation tendencies including their function in biosystems
	13.02.2024	solvation and complexation tendencies including their function in biosystems
	14.02.2024	Basant Panchami/ Sir Chhotu Ram Jayanti
	15.02.2024	
	16.02.2024	

	17.02.2024	
6	19.02.2024	Chemistry of Noble Gases Chemical properties of the noble gases with emphasis on their low chemical reactivity
	20.02.2024	chemistry of xenon, structure and bonding of fluorides
	21.02.2024	
	22.02.2024	
	23.02.2024	
	24.02.2024	Guru Ravidas Jayanti
7	26.02.2024	oxides & oxyfluorides of xenon
	27.02.2024	Test-1 (Unit-I and II)
	28.02.2024	
	29.02.2024	
	01.03.2024	
	02.03.2024	
8	04.03.2024	Unit-III - p-Block Elements , Emphasis on comparative study of properties of p-block elements
	05.03.2024	Boron family (13th gp):- Diborane – properties and structure (as an example of electron – deficient compound and multicentre bonding)
	06.03.2024	
	07.03.2024	
	08.03.2024	Maha Shivratri
	09.03.2024	
9	11.03.2024	Borazene – chemical properties and structure Trihalides of Boron
	12.03.2024	Trends in Lewis acid character structure of aluminium (III) chloride
	13.03.2024	
	14.03.2024	
	15.03.2024	
	16.03.2024	
10	18.03.2024	Carbon Family (14th group) Catenation, $p\pi-d\pi$ bonding (an idea)
	19.03.2024	Carbides, fluorocarbons
	20.03.2024	
	21.03.2024	
	22.03.2024	
	23.03.2024	Holi Vacation
11	25.03.2024	Holi Vacation

	26.03.2024	Holi Vacation
	27.03.2024	Holi Vacation
	28.03.2024	Holi Vacation
	29.03.2024	Holi Vacation
	30.03.2024	Holi Vacation
12	01.04.2024	silicates structural aspects), silicones – general methods of preparations, properties and uses
	02.04.2024	Unit-IV - p-Block Elements , Nitrogen Family (15th group) Oxides – structures of oxides of N, P. oxyacids
	03.04.2024	
	04.04.2024	
	05.04.2024	
	06.04.2024	
13	08.04.2024	structure and relative acid strengths of oxyacids of Nitrogen and phosphorus
	09.04.2024	Structure of white, yellow and red phosphorus.
	10.04.2024	
	11.04.2024	Id-ul-Fitr
	12.04.2024	
	13.04.2024	Vaisakhi
14	15.04.2024	Oxygen Family (16th group) Oxyacids of sulphur – structures and acidic strength H_2O_2 –structure, properties and uses.
	16.04.2024	Halogen Family (17th group) Basic properties of halogen, interhalogens types properties
	17.04.2024	Ram Navmi
	18.04.2024	
	19.04.2024	
	20.04.2024	
15	22.04.2024	hydro and oxyacids of chlorine – structure and comparison of acid strength
	23.04.2024	Test-2 (Unit-III and IV)