

# TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR DR. DIVYA PRABHA

CLASS AND SECTION M.Sc.(P) - II<sup>nd</sup> sem

SUBJECT Inorganic Chemistry - II, Paper - V.II  
16CHE2290

WEEK 1	DESCRIPTION
1.01.24	Crystal field theory introduction
2.01.24	Postulates of crystal field theory
3.01.24	Limitation of crystal field
4.01.24	Limitation of crystal field theory
5.01.24	MOT introduction
6.01.24	Octahedral MOD discussion
<b>WEEK 2</b>	
8.01.24	Tetrahedral MOD discussion
9.01.24	Practical of Ist sem.
10.01.24	Square planar MOD discussion
11.01.24	$\pi$ -bonding MOT
12.01.24	Summary of all bonding theories in transition metal complexes
13.01.24	Practical of Ist sem
<b>WEEK 3</b>	
15.01.24	Spectroscopic states introduction
16.01.24	Practice of all spectroscopic states
18.01.24	Spin-orbit coupling in free ions
19.01.24	" " " for Ist transition series
20.01.24	Orgel diagram
<b>WEEK 4</b>	
22.01.24	Tanabe - Sugano diagram
23.01.24	Comparison between Orgel and T-S diagram
24.01.24	$Dq$ , $\beta$ parameters calculation
25.01.24	"
27.01.24	Distortion effect on d-orbital
<b>WEEK 5</b>	
29.01.24	Electronic spectrum discussion
30.01.24	Structure elucidation
31.01.24	John Teller distortion discussion
01.02.24	"
02.02.24	Spectrochemical series introduction
03.02.24	Nephelauxetic series briefing

WEEK 6	DESCRIPTION
05.02.24	Revision of unit done.
06.02.24	Nephelauxetic rules discussion.
07.02.24	Charge transfer spectra. Introduction
08.02.24	few eg of charge transfer spectra.
09.02.24	"
10.02.24	Electronic spectra of molecular addition
<b>WEEK 7</b>	
12.02.24	Electronic spectra discussion
13.02.24	Revision of Unit A
15.02.24	Revision of Unit B
16.02.24	Test of Unit A
17.02.24	Queries of Test
<b>WEEK 8</b>	
19.02.24	Test of Unit B
20.02.24	Queries of Unit B and introduction of Unit-C
21.02.24	Magnetic properties of TMC
22.02.24	Introduction of magnetic properties
23.02.24	Paramagnetic and diamagnetic properties.
24.02.24	Gouy's method for determination of magnetic susceptibility
<b>WEEK 9</b>	
26.02.24	Magnetic moment introduction
27.02.24	Calculation of magnetic moment
28.02.24	Magnetic properties of free ions
29.02.24	Orbital contribution
01.03.24	Effect of ligand field
02.03.24	Application of magneto-chemistry in st. determination
<b>WEEK 10</b>	
04.03.24	Introduction of magnetic exchange coupling
05.03.24	Magnetic exchange coupling briefing
06.03.24	Spin state cross over discussion.
07.03.24	Metal clusters discussion
09.03.24	Boranes introduction
<b>WEEK 11</b>	
11.03.24	Structure and bonding of boranes
12.03.24	" " of higher boranes
13.03.24	Wade's rule introduction
14.03.24	Wade's rule explanation with examples
15.03.24	"
16.03.24	Carboranes introduction
<b>WEEK 12</b>	
18.03.24	Metal carbonyl clusters (LNCC) (MNCC)
19.03.24	"
20.03.24	Total electron count (TEC) introduction)
21.03.24	TEC with examples explanation
22.03.24	"

WEEK 13		DESCRIPTION
		----- HOLI BREAK-----
<b>WEEK 14</b>		
01.04.24		Test of Unit A and B
02.04.24		Queries related to Test & introduction of Unit D
03.04.24		Metal carbonyl introduction
04.04.24		Structure and bonding of metal carbonyls
05.04.24		"
06.04.24		Vibrational spectra of metal carbonyls
<b>WEEK 15</b>		
08.04.24		Bonding and structure elucidation
09.04.24		"
10.04.24		Important reactions of metal carbonyls
12.04.24		Metal nitrosyl introduction
13.04.24		Bonding & st. elucidation of metal nitrosyl
<b>WEEK 16</b>		
15.04.24		Dinitrogen st., bonding and reaction
16.04.24		"
18.04.24		Dioxygen st., bonding and reaction
19.04.24		"
20.04.24		"
<b>WEEK 17</b>		
22.04.24		Test: phosphine as ligand discussion
23.04.24		It's struct. and properties
24.04.24		Reaction of test. phosphine
25.04.24		"
26.04.24		Revision of all units
27.04.24		"

# TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR .....MANITA.....  
 CLASS AND SECTION .....M.Sc. (P.) II<sup>nd</sup> Sem. Chemistry  
 SUBJECT .....Organic & Physical.....

WEEK 1	DESCRIPTION
1.01.24	Introduction of aliphatic nucleophilic substitution.
2.01.24	$S_N1$ , $S_N2$ , $S_Ni$ and SET Mech.
3.01.24	Neighbouring gp. Mech. anchimeric assistance.
4.01.24	classical and non-classical carbocation
5.01.24	Phenonium ions, carbocation rearrangements.
6.01.24	Application of NMR spectroscopy in detection of carbocations
<b>WEEK 2</b>	
8.01.24	Reactivity effect of substrate str.
9.01.24	Attacking Nucleophile.
10.01.24	Revision of these topics.
11.01.24	Leaving gp. and reaction medium.
12.01.24	Ambident Nucleophile and regioselectivity
13.01.24	Phase transfer Catalyst.
<b>WEEK 3</b>	
15.01.24	Revision.
16.01.24	Test
18.01.24	Assignment of this unit
19.01.24	Introduction of Elimination Reac <sup>n</sup> .
20.01.24	$E2$ , $E1$ and E1cb mechanism.
<b>WEEK 4</b>	
22.01.24	Orientation of double bond
23.01.24	Reactivity effects of substrate str.
24.01.24	Attacking base, the leaving gp. and the medium
25.01.24	Mech. and orientation in pyrolytic elimination.
27.01.24	Revision.
<b>WEEK 5</b>	
29.01.24	Addition to carbon-Hetero Multiple Bonds.
30.01.24	Mech. of Metal hydride red <sup>n</sup> . of saturated hydrocarbon.
31.01.24	Addition to carbon-carbon Multiple Bonds.
01.02.24	Mechanistic and stereochemical aspects of
02.02.24	addition reaction involving electrophiles.
03.02.24	Nucleophiles and free radicals regio-

WEEK 6	DESCRIPTION
05.02.24	Chemoselectivity, orientation and reactivity
06.02.24	Addition to cyclopropane ring.
07.02.24	Hydrogenation of double and triple bonds.
08.02.24	Revision of these topics.
09.02.24	Hydroboration
10.02.24	Michael Add <sup>n</sup> .
WEEK 7	
12.02.24	Sharpless asymmetric epoxidation.
13.02.24	Revision
15.02.24	Test
16.02.24	Introduction of Physical chemistry - chain Rea <sup>n</sup>
17.02.24	Hydrogen Bromine Rea <sup>n</sup> .
WEEK 8	
19.02.24	Pyrolysis of acetaldehyde, decomposition of ethane
20.02.24	Photochemical Rea <sup>n</sup> .
21.02.24	Continue this topic.
22.02.24	General treatment of Rea <sup>n</sup> . (o-p-hydrogenated <sup>n</sup> ).
23.02.24	apparent activation energy of chain Rea <sup>n</sup> .
24.02.24	Chain length.
WEEK 9	
26.02.24	Branching chain Rea <sup>n</sup> .
27.02.24	Revision
28.02.24	Rice Herzfeld mech. of organic molecules.
29.02.24	H <sub>2</sub> -O <sub>2</sub> reax.
01.03.24	Kinetics of enzymatic reax.
02.03.24	Michaelis Menten treatment.
WEEK 10	
04.03.24	Evaluation of Michaelis Ca <sup>tt</sup> .
05.03.24	Revision
06.03.24	Substrate binding by Lineweaver - Burk plot
07.03.24	Hofstee methods.
09.03.24	Competitive and non-competitive inhibition.
WEEK 11	
11.03.24	Revision.
12.03.24	Ion Transport in solutions. - Introduction.
13.03.24	Tonic movement under the influence of an electric field
14.03.24	Mobility of ions, ionic drift velocity and its relation.
15.03.24	Einstein relation b/w the absolute mobility
16.03.24	Stokes Einstein relation
WEEK 12	
18.03.24	Revision
19.03.24	The Nernst - Einstein equation.
20.03.24	Walden rule, The rate process approach to ionic mig.
21.03.24	The rate process eq <sup>n</sup> for equivalent conductivity
22.03.24	Revision.

WEEK 13		DESCRIPTION
		----- HOLI BREAK-----
WEEK 14		
01.04.24		Total driving force for ionic transport
02.04.24		Nernst - Planck flux equation
03.04.24		Revision
04.04.24		Toxic drift and diffusion potential.
05.04.24		The onsager phenomenological equations.
06.04.24		Revision
WEEK 15		
08.04.24		The basic equation for the diffusion
09.04.24		Plank's contd and Plank - Henderson eq <sup>n</sup> .
10.04.24		<del>at</del> diffusion potential
12.04.24		Revision
13.04.24		Revision
WEEK 16		
15.04.24		Revision
16.04.24		Revision
18.04.24		Revision
19.04.24		Revision
20.04.24		Revision
WEEK 17		
22.04.24		Revision
23.04.24		Revision
24.04.24		Revision
25.04.24		Revision
26.04.24		Revision
27.04.24		Revision.

TIKA RAM GIRLS COLLEGE SONEPAT

Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR

Dr. Monika Dahan

CLASS AND SECTION

M.Sc. (P) 2<sup>nd</sup> SEM

SUBJECT

Organic + Physical Chemistry

WEEK 1	organe <sup>o</sup>	DESCRIPTION
1.01.24		Aliphatic Electrophilic sub <sup>n</sup> - Bimolecular mech-SF2, SEi, SEt
2.01.24		ES accompanied by double bond shifts. Effect of substrates.
3.01.24		Leaving group, solvent polarity on reactivity
4.01.24		ArES - Arenium ion, mech, orient <sup>n</sup> & reactivity energy
5.01.24		profile diagram O/P ratio ipco attack, orientation in
6.01.24		other org systems. Quantitative treatment of reactivity
<b>WEEK 2</b>		
8.01.24		Diazonium coupling, Vilsmeier oxn, Grattesman-Koch oxn
9.01.24		Practicals of 1 <sup>st</sup> SEM
10.01.24		ANS - The ArSN1, ArSN2, Benzynes and SRN1 mech.
11.01.24		Reactivity - effect of substrate structure, leaving group
12.01.24		Attacking nucleophile. The von-Richter, Sommet-Hauser
13.01.24		Practical. of 1 <sup>st</sup> SEM
<b>WEEK 3</b>		
15.01.24		Smiles rearrangements-
16.01.24		Test.
18.01.24		Add <sup>n</sup> to C-X multiple bonds - mech of metal hydrides
19.01.24		reduction of saturated & unsaturated carbonyl Comp
20.01.24		Acids, esters and nitroles - Addition of Grignard reagents
<b>WEEK 4</b>		
22.01.24		organosine, organolithium reagents to >C=O and =C=O Comp
23.01.24		Wittig oxn, mech of cond <sup>n</sup> oxn involving enolates.
24.01.24		Aldeh, Knoevenagel, Claisen, Mannich, Benzoin
25.01.24		perkin and stobbe oxn.
27.01.24		Hydrolysis of esters and amides
<b>WEEK 5</b>		
29.01.24		Ammonolysis of esters.
30.01.24		Test
31.01.24		Revision of section - B topics
01.02.24		Group discussion
02.02.24		presentation given by students
03.02.24		"

WEEK 6	physical DESCRIPTION
05.02.24	Schrodinger wave equation for a particle in a 3D box.
06.02.24	Concept of degeneracy among energy level for a particle
07.02.24	in 3D box. set
08.02.24	Schrodinger wave equation for linear harmonic motion.
09.02.24	its consequences
10.02.24	Revision of these topics
<b>WEEK 7</b>	
12.02.24	Test of above topics
13.02.24	RDWF for 3D rigid rotator
15.02.24	Energy of rigid rotator
16.02.24	space quantisation
17.02.24	Schrodinger wave eq <sup>n</sup> for H-atom.
<b>WEEK 8</b>	
19.02.24	separation of variable in polar spherical coordinates
20.02.24	Its solution + test
21.02.24	Principal, azimuthal and magnetic quantum No.
22.02.24	magnitude of their values.
23.02.24	Probability distribution function
24.02.24	Revision of these all topics
<b>WEEK 9</b>	
26.02.24	Test of these topic
27.02.24	Radial distribution function
28.02.24	shape of atomic orbitals (s, p, d)
29.02.24	Group Discussion
01.03.24	Presentation given by students
02.03.24	"
<b>WEEK 10</b>	
04.03.24	Revision
05.03.24	Revision
06.03.24	Revision
07.03.24	Test
09.03.24	Group discussion
<b>WEEK 11</b>	
11.03.24	Introduction to thermodynamics
12.03.24	Basic thermodynamics
13.03.24	Classical - clausius equation
14.03.24	Law of mass action
15.03.24	Thermodynamics of Law of mass action
16.03.24	Revision of these topics
<b>WEEK 12</b>	
18.03.24	Test
19.03.24	Third Law of thermodynamics
20.03.24	Nernst theorem of heat
21.03.24	continue this topic
22.03.24	Determination of absolute entropy



WEEK 13	DESCRIPTION
	----- HOLI BREAK -----
<b>WEEK 14</b>	
01.04.24	Unattainability of absolute zero.
02.04.24	Limitation of third law.
03.04.24	Phase diagram for two completely miscible components
04.04.24	"
05.04.24	Group discussion
06.04.24	Revision.
<b>WEEK 15</b>	
08.04.24	Test
09.04.24	Eutectic Systems
10.04.24	Calculation of eutectic point
12.04.24	Continue topic
13.04.24	Group discussion
<b>WEEK 16</b>	
15.04.24	systems forming solid compounds Analy with
16.04.24	congruent and incongruent M-D.
18.04.24	Group discussion
19.04.24	presentation
20.04.24	"
<b>WEEK 17</b>	
22.04.24	Phase diagram
23.04.24	Thermodynamic treatment of solid solutions.
24.04.24	Revision
25.04.24	Revision
26.04.24	Revision
27.04.24	Test.

2023-24

III<sup>rd</sup> sem.

## TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR ..DR. Divya.....Dr. Manika, <sup>1</sup>Manita, <sup>1</sup>MaikaCLASS AND SECTION .....M.Sc(P) - III<sup>rd</sup> sem.....

SUBJECT .....Spectroscopy.....

WEEK 1	DESCRIPTION
1.01.24	Introduction of spectroscopy.
2.01.24	Electromagnetic radiation, interaction of electromagnetic
3.01.24	radiation with matter.
4.01.24	Region of the spectrum the width and intensity of
5.01.24	spectral lines. Continue this topic.
6.01.24	Continue this topic.
<b>WEEK 2</b>	
8.01.24	Resolving power.
9.01.24	Rotational spectra - The rotation of molecule.
10.01.24	Rotational spectra of diatomic molecule.
11.01.24	The spectrum of non-rigid rotator.
12.01.24	The effect of isotopic substitutions.
13.01.24	Linear and symmetric top polyatomic mole.
<b>WEEK 3</b>	
15.01.24	Revision.
16.01.24	Introduction of vibrational spectra.
18.01.24	Vibrating diatomic molecule.
19.01.24	Simple harmonic vibrations.
20.01.24	Anharmonicity of vibrations, rotator.
<b>WEEK 4</b>	
22.01.24	Revision.
23.01.24	Interaction of rotations and vibration.
24.01.24	The vibration of polyatomic molecule.
25.01.24	Analysis of IR technique.
27.01.24	Revision.
<b>WEEK 5</b>	
29.01.24	Introduction of Electronic spectra.
30.01.24	Diatomic molecules, vibrational course str.
31.01.24	Rotational fine str. of electronic band.
01.02.24	The Frank-Condon principle.
02.02.24	Intensity of vibrational - electronic band.
03.02.24	Dissociation energy.

WEEK 6	DESCRIPTION
05.02.24	The format diagram.
06.02.24	Revision.
07.02.24	Introduction of electronic Absorption Spectroscopy.
08.02.24	Energy levels in diatomic molecules.
09.02.24	Introduction to electronic transition.
10.02.24	Assignment of transitions.
<b>WEEK 7</b>	
12.02.24	spectra of transition metal complexes.
13.02.24	Orbital diagrams.
15.02.24	Nuclear Magnetic Resonance.
16.02.24	Applications of spin-spin coupling const.
17.02.24	Evaluation of rate rates of fast exch.
<b>WEEK 8</b>	
19.02.24	Double Resonance technique.
20.02.24	Application of IR Spectroscopy to determine conf.
21.02.24	Continue this topic
22.02.24	Continue this topic
23.02.24	Revision
24.02.24	Revision.
<b>WEEK 9</b>	
26.02.24	Introduction of NMR Spectra
27.02.24	Spin active nuclei, Chemical shift
28.02.24	Shielding and deshielding.
29.02.24	Internal Standards.
01.03.24	Hydrogen Bonding on chemical shift.
02.03.24	Continue this topic
<b>WEEK 10</b>	
04.03.24	Anisotropic effect
05.03.24	Principles and applications of UV, IR
06.03.24	Continue this topic
07.03.24	NMR spectra in the str. elucidation
09.03.24	of organic comp.
<b>WEEK 11</b>	
11.03.24	Continue this topic
12.03.24	Revision
13.03.24	Revision
14.03.24	Assignments.
15.03.24	Test
16.03.24	Revision.
<b>WEEK 12</b>	
18.03.24	Rotational Spectra
19.03.24	Rotational molecule
20.03.24	Spectrum of non-rigid Rotators
21.03.24	Revision
22.03.24	Revision

WEEK 13	
	DESCRIPTION
	----- HOLI BREAK-----
<b>WEEK 14</b>	
01.04.24	Vibrational spectrum
02.04.24	Continue this topic
03.04.24	Vibrating diatomic molecule
04.04.24	Continue
05.04.24	Revision.
06.04.24	Revision.
<b>WEEK 15</b>	
08.04.24	Interaction of Radiations and vibrations
09.04.24	Analysis of IR
10.04.24	Continue this topic
12.04.24	Revision
13.04.24	Revision
<b>WEEK 16</b>	
15.04.24	Introduction of electronic spectra
16.04.24	Diatomic molecules.
18.04.24	Revision
19.04.24	Revision
20.04.24	Assignments.
<b>WEEK 17</b>	
22.04.24	Revision
23.04.24	"
24.04.24	"
25.04.24	"
26.04.24	"
27.04.24	"

# TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR DR. DIVYA PRABHA

CLASS AND SECTION M.Sc.(E.) Org. IV Sem

SUBJECT Organotransition metal Chemistry  
Paper XXIII(a) 17CHE249A1

WEEK 1	DESCRIPTION
1.01.24	Introduction of organometallic compounds
2.01.24	" " "
3.01.24	Types of bonding - Ionic
4.01.24	Covalent bonding discussed
5.01.24	Covalent bonding briefing
6.01.24	Practical of IIIrd semester
<b>WEEK 2</b>	
8.01.24	Practical of IIIrd semester
9.01.24	Types of alkyl and aryl transition metals
10.01.24	Synthetic route introduction
11.01.24	" " further discussion
12.01.24	Decomposition pathways briefing
13.01.24	" " " "
<b>WEEK 3</b>	
15.01.24	Introduction of organocopper
16.01.24	Use of organocopper in organic synthesis
18.01.24	Completion of section A and introduction of Section-B
19.01.24	Transition metal $\pi$ -complexes discussion
20.01.24	Alkenes preparation
<b>WEEK 4</b>	
22.01.24	Alkenes OMC properties and nucleophilic reaction
23.01.24	Electrophilic reactions of Alkenes
24.01.24	Alkynes OMC preparation and properties introduction
25.01.24	Electrophilic and nucleophilic reactions of Alkynes
27.01.24	" " " "
<b>WEEK 5</b>	
29.01.24	Allyl preparation and properties introduction
30.01.24	Discussion of electrophilic reactions of allyl
31.01.24	" " nucleophilic " "
01.02.24	Comparison of Alkyne, allyl and Alkenes
02.02.24	Introduction of metallocenes
03.02.24	Preparation of ferrocene

WEEK 6	DESCRIPTION
05.02.24	Comparison preparation of all other transition metal $\pi$ -complexes
06.02.24	Discussion of properties of metallocene
07.02.24	Electrophilic reaction of ferrocene
08.02.24	Nucleophilic " " "
09.02.24	Test of Section-A and B
10.02.24	Queries for the part done and test regarding
<b>WEEK 7</b>	
12.02.24	Fischer carbene synthesis
13.02.24	Schrock " synthesis
15.02.24	Structure and bonding of both carbene discussion
16.02.24	Bonding comparison of Fischer & Schrock
17.02.24	Queries regarding carbene taken
<b>WEEK 8</b>	
19.02.24	Nucleophilic and electrophilic reaction of Fischer carbene
20.02.24	"
21.02.24	" " " of Schrock carbene
22.02.24	" "
23.02.24	Metal carbene complexes introduction
24.02.24	Synthesis of metal carbene
<b>WEEK 9</b>	
26.02.24	Structure and bonding of metal carbene
27.02.24	Reactions (nucleophilic and electrophilic) of metal carbene
28.02.24	Unit-C completion and queries for the same discussion
29.02.24	Test of Unit-C
01.03.24	Problems regarding test and other queries
02.03.24	"
<b>WEEK 10</b>	
04.03.24	Introduction of Unit-D
05.03.24	" of fluxional DMC
06.03.24	Acyclic alkene fluxional briefing
07.03.24	Dynamic equilibria of acyclic alkene
09.03.24	"
<b>WEEK 11</b>	
11.03.24	Reactions involved discussion
12.03.24	$\sigma$ -bonded cyclic alkene introduction
13.03.24	"
14.03.24	Dynamic equilibria of $\sigma$ -bonded briefing
15.03.24	"
16.03.24	"
<b>WEEK 12</b>	
18.03.24	Revision of Unit-C
19.03.24	Problems discussion
20.03.24	Test of Unit - A
21.03.24	Test of Unit - B
22.03.24	Test of Unit - C

2023-24

IV sem

WEEK 13	DESCRIPTION
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	----- HOLI BREAK -----
WEEK 14	
01.04.24	Problems discussion after break
02.04.24	Revision of Unit - C
03.04.24	Ligand scrambling introduction
04.04.24	"
05.04.24	Rotation of ligands on metals introduction
06.04.24	"
WEEK 15	
08.04.24	Ziegler - Natta catalyst
09.04.24	"
10.04.24	"
12.04.24	Homogeneous catalytic hydrogenation introduction
13.04.24	Briefing of "
WEEK 16	
15.04.24	Alkene hydrogenation introduction - Wilkinson catalyst.
16.04.24	Cyclic mechanism of the same
18.04.24	Wacker's process introduction
19.04.24	Cyclic mechanism of Wacker's process
20.04.24	"
WEEK 17	
22.04.24	Hydroformylation of olefine Introduction
23.04.24	Cyclic mechanism of hydroformylation
24.04.24	Application of transition metal Organometallic
25.04.24	Revision of Unit - D
26.04.24	" of all units.
27.04.24	"

2022-24

14/11/2022

## TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR

Moukika

CLASS AND SECTION

MSc (S) Chemistry

SUBJECT

Medical Aspects of Inorganic Chem.

WEEK 1	DESCRIPTION
1.01.24	Introduction of Biochemical Base of essential Metal
2.01.24	Zinc deficiencies and their therapies.
3.01.24	Carcinogens and Carcinostatic agent.
4.01.24	Zinc in tumour growth and inhibition
5.01.24	and cancer activity and more.
6.01.24	Revision: 2. Practical.
<b>WEEK 2</b>	
8.01.24	Mechanism of platinum complex & practical
9.01.24	Anticancer activity of Rhodium complex
10.01.24	Revision
11.01.24	Presentation on essential and trace metal complex.
12.01.24	Anticancer activity of Copper complex
13.01.24	anticancer activity of Gold complex.
<b>WEEK 3</b>	
15.01.24	Anticancer activity of Selenium complexes
16.01.24	Revision
18.01.24	Antibacterial and antiviral activity of metal complex.
19.01.24	Polyamino carboxylic acid
20.01.24	Polyethylene amines.
<b>WEEK 4</b>	
22.01.24	Mechanism of Platinum complex
23.01.24	Presentation of Rhodium complex
24.01.24	Presentation of Platinum complex.
25.01.24	Revision
27.01.24	Test.
<b>WEEK 5</b>	
29.01.24	Introduction of Drug in hypo & hyper activity
30.01.24	Hyper activity of thyroid
31.01.24	Inorganic drug in dental carries
01.02.24	Revision
02.02.24	clinical disorders of alkali and alkaline metal.
03.02.24	alkali and alkaline metal their remedies.



WEEK 6	DESCRIPTION
05.02.24	Revision and Test.
06.02.24	Lithium drug in psychiatry
07.02.24	Heavy metal in Biological system.
08.02.24	Toxicity and their detoxification
09.02.24	Revision
10.02.24	Selenium of Biological system.
<b>WEEK 7</b>	
12.02.24	Presentation of clinical disorder of metal.
13.02.24	Mechanism of metal ion induced toxicity.
15.02.24	Revision
16.02.24	Interaction of b/w orally administered drug.
17.02.24	Metal ion in gut.
<b>WEEK 8</b>	
19.02.24	Revision.
20.02.24	Lithium of drug in psychiatry
21.02.24	Doubt class taken in Unit II.
22.02.24	Selenium in Biological system with reference.
23.02.24	Test & Revision.
24.02.24	Presentation of different <del>class</del> topic in class.
<b>WEEK 9</b>	
26.02.24	Introduction of ligand induced toxicity
27.02.24	Interference with Hb in oxygen transport system
28.02.24	Interference with metallo-enzymes
29.02.24	Beneficial effect of ligand chelation
01.03.24	Carcinogenic ligands and ligand chelation
02.03.24	Carcinostatic ligands
<b>WEEK 10</b>	
04.03.24	Alkylating agent as anticancer drugs
05.03.24	Thiosemi carbazones as anticancer drugs
06.03.24	Revision
07.03.24	Test and Revision
09.03.24	Macrocyclic antibiotic ligands
<b>WEEK 11</b>	
11.03.24	Provable mechanism of the drug.
12.03.24	antiviral activity of chelating ligands
13.03.24	Aspirin chelation
14.03.24	Presentation of Student.
15.03.24	Macrocyclic antibiotic ligands
16.03.24	alkylating agents as anticancer drugs.
<b>WEEK 12</b>	
18.03.24	Therapeutic activity are unrelated
19.03.24	Revision.
20.03.24	Test
21.03.24	Macrocyclic ligand of antibiotic.
22.03.24	Revision and Test.

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1<sup>st</sup> Sem

WEEK 13	
DESCRIPTION	
	----- HOLI BREAK -----
<b>WEEK 14</b>	
01.04.24	Introduction of Vit. Complex. vit. and their function. Recommended dietary allowances Vit. deficiency and supplementation Dietary minerals Calcium and vit. D
02.04.24	
03.04.24	
04.04.24	
05.04.24	
06.04.24	
<b>WEEK 15</b>	
08.04.24	Antioxidants and their health effect. Revision Bio mineralisation Test and Presentation of topic Radiopharmacology
09.04.24	
10.04.24	
12.04.24	
13.04.24	
<b>WEEK 16</b>	
15.04.24	Nuclear medicine Test and presentation. Nuclear medicine. Radioiodine 131 Introduction of technetium - 99m
16.04.24	
18.04.24	
19.04.24	
20.04.24	
<b>WEEK 17</b>	
22.04.24	Presentation of Vit. Complex. Presentation of calcium and Vit D complex. Gallium and Indium Scan. Test. Revision of vit. complex. Gallium and indium scan and Syllabus Revision.
23.04.24	
24.04.24	
25.04.24	
26.04.24	
27.04.24	

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1<sup>st</sup> Sem

## TIKA RAM GIRLS COLLEGE SONEPAT

## Lesson Plan Format

NAME OF ASSISTANT/ASSOCIATE PROFESSOR ..... Monika

CLASS AND SECTION ..... M.sc (F) Chemistry

SUBJECT ..... Electro-analytical Chemistry

WEEK 1	DESCRIPTION
1.01.24	Electrode and across Interfaces and Introduction of $R_{ct}$
2.01.24	Introduction of Basic principle of current
3.01.24	Explanation of different current
4.01.24	Revision
5.01.24	Introduction of electrode
6.01.24	Explanation of Saturated calomel electrode & Practical
<b>WEEK 2</b>	
8.01.24	Revision and test of Introduction part 2 Practical
9.01.24	Explanation about Dropping Mercury electrode & Practical
10.01.24	Doubt Dirin class
11.01.24	Explanation about Ilkovic equation
12.01.24	Koutecky equation of Diffusion current
13.01.24	Introduction of Polarographic wave
<b>WEEK 3</b>	
15.01.24	Anodic and cathodic wave
16.01.24	Half wave potential
18.01.24	Revision
19.01.24	Test of Ilkovic and Koutecky equation
20.01.24	Discussion in class about cover Syllabus
<b>WEEK 4</b>	
22.01.24	Revision of Half wave potential
23.01.24	Introduction of Oxygen Interference
24.01.24	oxygen maxima and polarographic maxima
25.01.24	function of supporting electrolyte
27.01.24	Revision and Test
<b>WEEK 5</b>	
29.01.24	Introduction of Stability constant of complex
30.01.24	Stability complex in Reversible system only
31.01.24	Reversible system D.C polarography
01.02.24	Revision
02.02.24	Catalytic Hydrogen wave
03.02.24	Test

WEEK 6	DESCRIPTION
05.02.24	Principal of Amperometric Titration
06.02.24	Graph discussion of Amperometric titration
07.02.24	Types of titration curve
08.02.24	Apparatus and techniques of Titration
09.02.24	J.M.D.E
10.02.24	Introduction of R.D.M.E
<b>WEEK 7</b>	
12.02.24	Discussion of Rotating Platinum electrode
13.02.24	Introduction of Gold electrode
15.02.24	Carbon paste electrode
16.02.24	Revision
17.02.24	Test
<b>WEEK 8</b>	
19.02.24	Revision of whole Syllabus of Unit II & III
20.02.24	Glassy Carbon electrode
21.02.24	Revision
22.02.24	Test of Amperometric Titration
23.02.24	Graphite electrode
24.02.24	Test & Revision
<b>WEEK 9</b>	
26.02.24	Introduction of A.C Polarography
27.02.24	Discussion and Doubt
28.02.24	Volumetry of solution
29.02.24	Stirred solution of electrode
01.03.24	Volumetry in quiet and stirred soln
02.03.24	Revision
<b>WEEK 10</b>	
04.03.24	Square wave polarography
05.03.24	Normal pulse polarography
06.03.24	Differential pulse polarography
07.03.24	Revision
09.03.24	Doubt and Discussion of Unit-III
<b>WEEK 11</b>	
11.03.24	A.C polarography and Revision
12.03.24	Introduction of Chronopotentiometry
13.03.24	Revision
14.03.24	Chrono amperometry and Chronopotentiometry
15.03.24	Revision
16.03.24	Test
<b>WEEK 12</b>	
18.03.24	Square wave polarography presentation
19.03.24	Normal pulse polarography
20.03.24	Coulometry
21.03.24	Revision
22.03.24	Test

WEEK 13		DESCRIPTION
		----- HOLI BREAK -----
<b>WEEK 14</b>		
01.04.24		Theory of stripping voltametry.
02.04.24		Discussion of Voltametry in conc. process.
03.04.24		Conc. process.
04.04.24		Rest period of stripping voltametry.
05.04.24		Stripping process.
06.04.24		Cathodic stripping Voltametry
<b>WEEK 15</b>		
08.04.24		Revision
09.04.24		Anodic deposition
10.04.24		Cathodic redissolution
12.04.24		Experimental and app. of above system to Inorganic.
13.04.24		Revision.
<b>WEEK 16</b>		
15.04.24		Anodic and Cathodic redissolution
16.04.24		Discussion of Anodic and cathodic Stripping vol.
18.04.24		Introduction of Ion selective electrode.
19.04.24		Revision
20.04.24		Test
<b>WEEK 17</b>		
22.04.24		Explanation of Ion selective electrode
23.04.24		Application of ISE
24.04.24		or Experiment of ISE
25.04.24		ISE System in Inorganic System.
26.04.24		Revision of syllabus
27.04.24		Test & presentation turn wise.