

## Lesson Plan

Department of Physics

Session- 2023-24

Name of the Teacher: Manoj Kumar

Designation: Extension Lecturer

Class: BSc 1<sup>st</sup> Year

Semester: 2<sup>nd</sup> Sem

Subject: Properties of Matter and Kinetic Theory of Gases.

Week	Topics
1	Rotation of rigid body, Moment of inertial, Torque, angular momentum, Kinetic Energy of rotation.
2	Theorem of perpendicular and parallel axes (with proof), Moment of inertia of solid sphere, hollow sphere.
3	Moment of inertia of spherical shell, solid cylinder, hollow cylinder and solid bar of rectangular cross-section.
4	Fly wheel, Moment of inertia of an irregular body, Acceleration of a body rolling down on an inclined plane.
5	Elasticity, Stress and Strain, Hook's law, Elastic constant and their relations, Poisson's ratio, Torsion of cylinder and twisting couple, <b>ASSIGNMENT</b>
6	Determination of coefficient of modulus of rigidity for the material of wire by Maxwell's needle.
7	Bending of beam (Bending moment and its magnitude), Cantilever and Centrally loaded beam.
8	Determination of Young's modulus for the material of the beam and Elastic constants for the material of the wire by Searle's method.
9	<b>SESSIONAL TEST</b> Assumption of Kinetic theory of gases, pressure of an ideal gas (with derivation).
10	Kinetic interpretation of Temperature, Ideal Gas equation.
11	Degree of freedom, Law of equipartition of energy and its application for specific heat of gases,
12	Real gases, Vander wall's equation, Brownian motion( Qualitative)
13	Maxwell's distribution of speed and velocities (derivation required)
14	Experimental verification of Maxwell's law of speed distribution: most probable speed, average and r.m.s. speed, Mean free path,
15	Transport of energy and momentum, Diffusion of gases. <b>REVISION</b>

## Lesson Plan

Department of Physics

Session- 2023-24

Name of the Teacher: - Dr. Bhushan Monga

Designation: Associate Professor

Class: BSc 1<sup>st</sup> Year

Semester: 2<sup>nd</sup> Sem

Subject: Semiconductor Devices

Week	Topics
1	Energy bands in solids, Intrinsic and extrinsic semiconductors, carrier mobility and electrical resistivity of semiconductors, Hall effect,
2	p-n junction diode and their characteristics, Zener and Avalanche breakdown, Zener diode, Zener diode as a voltage regulator. Light emitting diodes (LED),
3	Photoconduction in semiconductors, Photodiode, Solar Cell, p-n junction as a rectifier, half wave and full wave rectifiers (with derivation),
4	Filters (series inductor, shunt capacitance, L-section or choke, $\pi$ and R.C. filter circuits).
5	Junction transistors, Working of NPN and PNP transistors, Three configurations of transistor (C-B, C-E, C-C modes), <b>ASSIGNMENT</b>
6	Common base, common emitter and common collector characteristics of transistor,
7	Constants of a transistor and their relation, Advantages and disadvantages of C-E configuration.
8	D.C. load line .Transistor biasing; various methods of transistor biasing and stabilization.
9	<b>SESSIONAL TEST</b> Amplifiers, Classification of amplifiers, common base and common emitter amplifiers
10	Coupling of amplifiers, various methods of coupling,
11	Resistance- Capacitance (RC) coupled amplifier (two stage, concept of band width, no derivation),
12	Feedback in amplifiers, advantages of negative feedback, emitter follower, distortion in amplifiers.
13	Oscillators, Principle of oscillation, classification of oscillators,
14	Condition for self sustained oscillation: Barkhausen criterion for oscillation,
15	Tuned collector common emitter oscillator, Hartley oscillator, C.R.O. (Principle and Working). <b>REVISION</b>

## LESSON PLAN

NAME OF ASSISTANT PROFESSOR: RAJVIR SINGH

CLASS: B.Sc. 1st YEAR

SEMESTER: 2<sup>nd</sup>

SUBJECT: INORGANIC CHEMISTRY

SESSION: 2023-2024

MONTH	WEEK	TOPIC
January	1 <sup>st</sup>	<b>Section A: Hydrogen Bonding &amp; Vander Waals Forces</b> Hydrogen Bonding- Definition, Types, Effects of hydrogen bonding on properties of substances, application, Brief discussion of various types of Vander Waals Forces
	2 <sup>nd</sup>	<b>Section A: Metallic Bond and Semiconductors</b> Metallic Bond- Brief introduction to metallic bond, Band theory of metallic bond
	3 <sup>rd</sup>	Semiconductors- Introduction, types and applications.
	4 <sup>th</sup>	<b>Section A: S-Block Elements</b> Comparative study of the elements including, Diagonal relationships, Silent features of hydrides (methods of preparation excluded)
February	1 <sup>ST</sup>	Solvation and Complexation tendencies including their function in bio-systems
	2 <sup>ND</sup>	<b>Section A Chemistry of Noble Gases</b> Chemical properties of the noble gases with emphasis on their low chemical reactivity, Chemistry of xenon, Structure and bonding of fluorides, oxides & oxyfluorides of xenon <b>Assignment 1st</b>
	3 <sup>RD</sup>	<b>Section B: P-Block Elements</b> Emphasis on comparative study of properties of p-block elements (including diagonal relationship and excluding methods of preparation)
	4 <sup>TH</sup>	<b>Section B: Boron family (13th group)</b> Diborane- Properties and Structure (as an example of electron deficient compound and multicentre bonding), Borazene- Chemical properties and structure
March	1 <sup>ST</sup>	Trihalides of Boron- Trends in Lewis acid character structure of aluminium (III) chloride
	2 <sup>ND</sup>	<b>Section B: Carbon Family (14 group)</b> Catenation, p-pie, d-pie bonding (an idea), Carbides, Fluorocarbons, Silicates (structural aspects), Silicon's- general methods of preparations, Properties and uses. <b>Assignment 2nd and Unit Test</b>
	3 <sup>RD</sup>	<b>Section B: Nitrogen Family (15th group)</b> Oxides- Structures of oxides of N,P, Oxyacids structure and relative acid strengths of oxyacids of Nitrogen and phosphorus, Structure of white, yellow and red phosphorus.
	4 <sup>TH</sup>	<b>Holi break</b>



April	1 <sup>ST</sup>	<b>Section B: Oxygen Family (16th group)</b> Oxyacids of sulphur- structures and acidic strength, H <sub>2</sub> O structure, properties and uses.
	2 <sup>ND</sup>	<b>Section B: Halogen Family (17th group)</b> Basic properties of halogen, Interhalogens types properties, hydro and oxyacids of chlorine- structure and comparison of acid strength.
	3 <sup>RD</sup>	<b>Recapitulation of Whole Syllabus</b>
	4 <sup>TH</sup>	<b>Recapitulation of Whole Syllabus</b>

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## LESSON PLAN

NAME OF ASSISTANT PROFESSOR: RAJVIR SINGH

CLASS: B.Sc. 1st YEAR

SEMESTER: 2<sup>nd</sup>

SUBJECT: ORGANIC CHEMISTRY

SESSION: 2023-2024

MONTH	WEEK	TOPIC
January	1 <sup>st</sup>	<b>Section A: Alkenes</b> Nomenclature of alkenes, Mechanisms of dehydration of alcohols and dehydro-halogenation of alkyl halides, The Saytzeff rule, Hofmann elimination, Physical properties and relative stabilities of alkenes
	2 <sup>nd</sup>	Chemical reactions of alkene mechanisms involved in hydrogenation, electrophilic and free radical additions, Markonikov rule, Hydroboration oxidation, Oxymercuration-Reduction
	3 <sup>rd</sup>	Ozonolysis, Hydration, Hydroxylation and oxidation with KMnO <sub>4</sub>
	4 <sup>th</sup>	<b>Section A: Arenes and Aromaticity</b> Nomenclature of benzene derivatives: Aromatic nucleus and side chain, Aromaticity: The Huckel rule, Aromatic ions, Annulenes up to 10 carbon atoms, aromatic, anti-aromatic and non-aromatic compounds
February	1 <sup>ST</sup>	Aromatic electrophilic substitution general pattern of the mechanism, Mechanism of nitration, Halogenation, Sulphonation and Friedel-Crafts reaction
	2 <sup>ND</sup>	Energy profile diagrams, Activating, Deactivating substituents and orientation. <b>Assignment 1st</b>
	3 <sup>RD</sup>	<b>Section B: Dienes and Alkynes</b> Nomenclature and classification of dienes: Isolated, Conjugated and Cumulated dienes, Structure of butadiene, Chemical reactions 1,2 and 1,4 additions (Electrophilic & free radical mechanism)
	4 <sup>TH</sup>	Diels-Alder reaction, Nomenclature, Structure and bonding in alkynes, Methods of formation
March	1 <sup>ST</sup>	Chemical reactions of alkynes, Acidity of alkynes, Mechanism of electrophilic and nucleophilic add Addition reactions, Hydroborationoxidation of alkynes
	2 <sup>ND</sup>	<b>Section B: Alkyl and Aryl Halides</b> Nomenclature and classes of alkyl halides, Methods of formation, chemical reactions <b>Assignment 2nd and Unit Test</b>
	3 <sup>RD</sup>	Mechanisms and stereochemistry of nucleophilic substitution reactions of alkyl halides, SN <sub>2</sub> and SN <sub>1</sub> reactions with energy profile diagrams
	4 <sup>TH</sup>	<b>Holi break</b>
April	1 <sup>ST</sup>	Methods of formation and reactions of aryl halides, The addition elimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions.



2 <sup>ND</sup>	Relative reactivity's of alkyl halides vs allyl. vinyl and aryl halides.
3 <sup>RD</sup>	<b>Recapitulation of Whole Syllabus</b>
4 <sup>TH</sup>	<b>Recapitulation of Whole Syllabus</b>

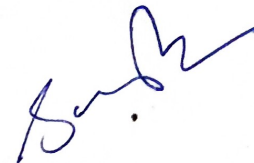
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## Lesson Plan

Name of Assistant Professor: Suresh Kumari  
Class: B.Sc.

Session: 2023-2024  
Subject: English

Month	Week	Topic
Jan.2024	1st	Introduction to Syllabus and Exam Pattern
	2nd	Translation, Ch-Our Civilization, Discussion of Que. Ans.
	3rd	Translation, Precis
	4th	Ch-It's Question Time, Discussion of Que. Ans., Precis
Feb. 2024	1st	Ch-An Interview with Christian Bernard, Discussion of Que. Ans.
	2nd	Precis, Translation
	3rd	Assignment, Practice of reference to the context
	4th	Translation, Precis, Comprehensive Passage
March 2024	1st	Ch- Untouchability and Caste System, Discussion of Que. Ans.
	2nd	Official Correspondence: Letter Writing
	3rd	Test, Precis, Translation, Reference to the Context
	4th	Holi Break
April 2024	1st	Ch-Inhumanisation of War, Discussion of Que. Ans., Comprehensive Passage , Ch-Seven types of Gender Inequality, Discussion of Que. Ans
	2nd	Official Correspondence; Letter Writing
	3rd	Revision and Practice
	4th	Revision and Practice



# Ch. Mani Ram Jhorar Govt. College, Mithi Sureran, Ellenabad

## Lesson Plan Session 2023-24

Name of the Asstt. /Asso. Professor...DALIP SINGH.....

Class and Section:-B.A/B.Sc-I (Sem II)... Subject:-MATHS.....

Months	Week	Topics:-
JAN 2024	I <sup>st</sup> week	Scalar and Vector product of three Vector and four Vector
	II <sup>nd</sup> week	Reciprocal of vector, vector differentiation and directional derivatives
	III <sup>rd</sup> week	Gradient of a scalar pt. function, Divergence and curl of vector pt. function Laplacian operator
Feb 24	I <sup>st</sup> week	Vector integration, line integral
	II <sup>nd</sup> week	Surface integral and Volume integral
	III <sup>rd</sup> week	Theorem of Gauss, Green and Stokes and problems based on these theorem
<del>Feb 24</del>	IV <sup>th</sup> week	Curvilinear Co-ordinates Gradient, divergence and curl of orthogonal curvilinear Co-ordinates

  
Signature



Ch. Mani Ram Jhorar Govt. College, Mithi Sureran, Ellenabad

Lesson Plan Session 2023-24

Name of the Asstt. /Asso. Professor. DALIP SINGH

Class and Section: B.A./B.Sc.-I Sem. II Subject: MATHS

Months	Week	Topics:-
MARCH 2024	I <sup>nd</sup> Week	De-Moivre's Theorem and its application
	II <sup>nd</sup> Week	Expansion of trigonometrical functions
APRIL 2024	<del>I<sup>st</sup></del> Week I <sup>st</sup>	Circular and hyperbolic functions
APRIL 2024	<del>I<sup>st</sup></del> Week II <sup>nd</sup>	Inverse of circular and hyperbolic functions Logarithm of a complex quantity
APRIL 2024	III <sup>rd</sup> Week	Gregory's Series and Summation of Trigonometric Series
APRIL 2024	IV <sup>th</sup> Week	Revision of full paper

CH. MANI RAM JHORAR GOVT. COLLEGE MITHI SURERAN ELLENABAD (SIRSA).

Lesson Plan Session 2023-24

Semester – 2nd

Class – BA & Bsc.-I

Subject – Comp. Compulsory Edu.

Months	Week	Topics
JANUARY	1st	Computer & Characteristics of Computers
	2nd	Basic Applications of Computer
	3rd	Components of Computer System-Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory.
	4th	Classifications of computers
FEBRUARY	1st	Represent of data/information concepts of data processing
	2nd	Internet, Application Of Internet
	3rd	Suffering The Internet Using Web-Browsers
	4th	Creating E-Mail Id.
March	1st	Viewing An E-Mail.
	2nd	Sending E-Mail To Single And Multiple Users
	3rd	Sending A File as an Attachment, operating system and basics of Windows
	4th	Holidays
April	1st	Windows Setting 1.Control Panels 2.Wall paper and Screen Savers 3.Setting the date and Sound 4.Concept of menu Using Help
	2nd	User Interface- Using Mouse and Moving and Moving Icons on the screen ,The My computer Icon The Recycle Bin , Status Bar, Start and Menu & Menu selection
	3rd	User Interface –Running and Application, Windows Explorer Viewing of File, Folders and Directories
	4th	Creating and Renaming of files and folders Opening and closing of different Windows