BHARATIYA VIDYA BHAVAN, KOCHI

STD XI ENGLISH - YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

MONTH	TOPIC / SUB-TOPIC		GRAMMAR	WRITING
	HORNBILL	SNAPSHOTS		
JUNE (21 days)	L1. The Portrait of a Lady P1. A Photograph P2. The Laburnum Top	L1. The Summer of the Beautiful White Horse	G1 Tenses	W1 Poster
JULY (24 days)	L2. We're Not Afraid to Die…. if We Can All Be Together (Not included for Mid Term Evaluation 1)		G2. Sentence Reordering	
UNIT TEST I (31/07/2024 - 07/08/2024)				
AUGUST (20 days)	L3. Discovering Tut: the Saga Continues			R1. Note Making W2. Speech
SEPTEMBER (16 days)	P3. The Voice of the Rain	L2. The Address		W3. Advertisements (Classifieds) i. Situation Wanted/ vacant ii. For sale/ To Let
OCTOBER (22 days)	P4. Childhood	L3. Mother's Day	G3. IF Clauses	
TERM END EVALUATION (18/10/2024 - 30/10/2024)				
NOVEMBER (24 days)		L4. Birth	G2. Sentence Reordering	W3. Advertisements (Classifieds) iii. Automobile iv. Missing v. Lost and Found vi. Educational Institution vii. Travel and Tours
DECEMBER (17 days)	L4. The Adventure P5. Father to Son			W4. Debate
UNIT TEST II (03/01/2025 - 10/01/2025)				
JANUARY (24 days)	L5. Silk Road	L5. The Tale of Melon City	G4. Transformation of Sentences	
FEBRUARY (22 days)	Revision FINAL EXAMINATION (17/02/2025 - 28/02/2025)			

BHARATIYA VIDYA BHAVAN, KOCHI STD XI ZOOLOGY YEAR PLAN FOR THE ACADEMIC YEAR 2024-25	
MONTH	**TOPIC**
JUNE	CHAPTER 4 ANIMAL KINGDOM
JULY	CHAPTER 4 ANIMAL KINGDOM CONTD.. CHAPTER 7 STRUCTURAL ORGANISATION IN ANIMALS **UNIT TEST -I (JULY 31 st-AUGUST 7th)** **CHAPTER 4 ANIMAL KINGDOM AND CHAPTER 7 STRUCTURAL ORGANIZATION IN ANIMALS**
AUGUST	CHAPTER 8 CELL- THE UNIT OF LIFE
SEPTEMBER	CHAPTER 9 BIOMOLECULES
OCTOBER	CHAPTER 14 BREATHING AND EXCHANGE OF GASES **TERM END EVALUATION 1 (OCT 18th-30th) CHAPTER 4,7 AND 8**
NOVEMBER	CHAPTER15-BODY FLUIDS AND CIRCULATION CHAPTER -16-EXCRETORY PRODUCTS AND THEIR ELIMINATION
DECEMBER	CHAPTER16-EXCRETORY PRODUCTS AND THEIR ELIMINATION CONTINUED.. CHAPTER 17-LOCOMOTION AND MOVEMENT

JANUARY	**UNIT TEST II -JANUARY (3rd-10th) (CHAPTER 9 - BIOMOLECULES, CHAPTER- 14 BREATHING AND EXCHANGE OF GASES** CHAPTER 18 - NEURAL CONTROL AND COORDINATION CHAPTER-19 CHEMICAL COORDINATION AND INTEGRATION
FEBRUARY	**REVISION** **FINAL EXAMINATION FEB 17th - 28th , FULL PORTIONS**

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA			
STD XI – BOTANY – YEAR PLAN			
2024-2025			
MONTH	**TOPIC**	**SUB TOPICS**	**CONCEPTS**
JUNE	1.DIVERSITY IN THE LIVING WORLD 2.BIOLOGICAL CLASSIFICATION	1.1 What is 'Living'? 1.2 Diversity in the Living World 1.3 Taxonomic Categories **[Taxonomical Aids not included]** 2.1 Kingdom Monera 2.2 Kingdom Protista 2.3 Kingdom Fungi	Characteristics of Living things. Taxonomic Hierarchy Binomial nomenclature. * Salient features of five kingdom classification *Salient features of five major kindom with examples.
JULY	2.BIOLOGICAL CLASSIFICATION CONTD ..... 3. PLANT KINGDOM	2.4 Kingdom Plantae 2.5 Kingdom Animalia 2.6 Viruses, Viroids and Lichens 3.1 Algae 3.2 Bryophytes 3.3 Pteridophytes	 *Salient features of plant kingdom. *Salient features of various divisions of plant kingdom with examples.
AUGUST	3. PLANT KINGDOM CONTD.... **(Angiosperms, Plant life cycle,Alternation of generation NOT included)** 5.MORHOLOGY OF FLOWERING PLANTS. **Description of one family Solanaceae (To be dealt along with the relevant experiments of the practical syllabus**	3.4 Gymnosperm 3.5 Angiosperm [upto Dicotyledons and Monocotyledons] 5.1 The Root 5.2 The Stem 5.3 The Leaf 5.4 The Inflorescence 5.5 The Flower	 Taproot and fibrous root system. Parts of root.
UNIT TEST I (JULY 31st TO AUGUST 7th] Portions Living world , Biological classification , Plant Kingdom CHAPTERS 1,2 & 3			

SEPTEMBER	5.MORHOLOGY OF FLOWERING PLANTS.CONTD..... 6.ANATOMY OF FLOWERING PLANTS.	5.6 The Fruit 5.7 The Seed 5.8 Semi-technical Description of a Typical Flowering Plant. 5.9 Description of Some Important Families.5.9.2 SOLANACEAE Included **[5.9.1 & 5.9.3 not included]** 6.1 The Tissues 6.2 The Tissue System 6.3 Anatomy of Dicotyledonous and Monocotyledonous Plants. **[6.4 Secondary Growth not included]**	Parts of fruits Drupe Parthenocarpic fruits Monocotyledonous and Dicotyledonous seed Floral symbols , diagram and Floral formula "Description of Vegetative and floral features of Plant Family SOLANACEAE " "Meristematic tissues Permanent tissues Simple tissues
OCTOBER	6.ANATOMY OF FLOWERING PLANTS.CONTD.. 10.CELL CYCLE AND CELL DIVISION.	10.1 Cell Cycle 10.2 M Phase 10.3 Significance of Mitosis	Epidermal tissue system Ground tissue system Vascular tissue system Various stages of mitosis and its significance.
TERM END EVALUATION I [OCTOBER 18th TO OCTOBER 30th] Portions Living world , Biological classification , Plant Kingdom, Morphology of flowering plants. CHAPTERS 1,2,3 & 5			
NOVEMBER	10.CELL CYCLE AND CELL DIVISION.CONTD... 11. PHOTOSYNTHESIS IN HIGHER PLANTS.	10.4 Meiosis 10.5 Significance of Meiosis 11.1 What do we Know? 11.2 Early Experiments 11.3 Where does Photosynthesis take place? 11.4 How many Pigments are involved in Photosynthesis? 11.5 What is Light Reaction?	Various stages of meiosis and its significance. *Early experiments in Photosynthesis. Structure of chloroplast. Action and Absorption spectrum in Photosynthesis. Light Reaction-Cyclic and Non cyclic photophosphorylation

DECEMBER	11.PHOTOSYNTHESIS IN HIGHER PLANTS.CONTD... . 12..RESPIRATION IN PLANTS	11.7 Where are the ATP and NADPH Used? 11.8 The C4 Pathway 11.9 Photorespiration 11.10 Factors affecting Photosynthesis 12.1 Do Plants Breathe? 12.2 Glycolysis 12.3 Fermentation 12.4 Aerobic Respiration	Kranz Anatomy-C4Pathway Photorespiration Factors affecting Photosynthesis-Law of limiting factors Cellular respiration Steps of glycolysis. Major pathways of anaerobic respiration The citric acid cycle.
JANUARY	12..RESPIRATION IN PLANTS. CONTD... 13. PLANT GROWTH AND DEVELOPMENT.	12.5 The Respiratory Balance Sheet 12.6 Amphibolic Pathway 12.7 Respiratory Quotient 13.1 Growth 13.2 Differentiation, Dedifferentiation and Redifferentiation 13.3 Development **[13.5 & 13.6 Photoperiodism & Vernalisation not included**]	The Respiratory Balance Sheet Amphibolic Pathway Respiratory Quotient Characteristics of growth. Phases of growth. Growth Rates. Conditions of Growth Plant Growth Regulators.
JANUARY	**UNIT TEST II [JANUARY 3rd TO JANUARY 10 th]** **PORTIONS CHAPTERS 6 &10 Anatomy of flowering plants and Cell cycle and Cell division**		
FEBRUARY	13. PLANT GROWTH AND DEVELOPMENT.	13.4 Plant Growth Regulators	Role of various Growth Regulators - Auxin,Gibberlin,Cytokinin,Ethylene and Abscissic acid
FINAL EXAMINATION [FEBRUARY 17 th TO FEBRUARY 28 th]FULL PORTIONS CHAPTERS 1,2,3,5,6,10,11,12&13			

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA				
YEAR PLAN FOR THE ACADEMIC YEAR 2024-2025				
STD XI - MATHEMATICS (041)				
MONTH	**UNIT**	**TOPIC**	**SUB TOPICS**	**CONCEPTS**
JUNE	1	**SETS**	Introduction Sets and their representations Empty set Finite and Infinite sets Equal Sets Subsets Intervals as subsets of R Universal set Operations on sets Complement of a set	Sets and their representations. Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations), Universal set, Venn diagrams, Union and Intersection of sets, difference of sets, complement of sets, properties of complement.
	2	**RELATIONS AND FUNCTIONS**	Introduction Cartesian product of sets Relations Functions	Ordered pairs , Cartesian product of the sets, Number of elements in the cartesian product of two finite sets, Cartesian product of the set of reals with itself (RxRxR). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation.Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions with their graphs. Sum, difference, product and quotient of functions.

JULY	4	**COMPLEX NUMBERS & QUADRATIC EQUATIONS**	Introduction Complex numbers Algebra of complex numbers Argand plane	Need for complex numbers, especially $\sqrt{-1}$ to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane.
MID TERM EVALUATION I (Chapters - 1, 2 & 4)				
AUGUST	8	**SEQUENCES AND SERIES**	Introduction Sequences Series Arithmetic Mean Geometric progression Relationship between AM and GM	Sequences & Series, Arithmetic Mean (A.M.) Geometric Progression (GP), general term of a G.P, sum of first n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.
SEPTEMBER	3	**TRIGONOMETRIC FUNCTIONS**	Introduction Angles Trigonometric functions Trigonometric functions of sum and diffence of some angles	Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the trigonometric identity $\sin^2x + \cos^2x = 1$, for all x.Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of sin x, sin y, cos x & cos y and their simple applications. Deducing the identities of $\tan(x+y)$, $\tan(x-y)$ $\cot(x+y)$, $\cot(x-y)$, $\sin x + \sin y$, $\sin x - \sin y$, $\cos x + \cos y$, $\cos x - \cos y$. Identities related to sin2x,cos2x,tan2x,sin3x,cos3x and tan3x.

	13	**STATISTICS (NOT FOR TERM END EVALUATION)**	Introduction Measures of dispersion Range Mean deviation Variance and Standard deviation	Measures of dispersion: Range, mean deviation, variance and standard deviation of ungrouped/grouped data
TERM END EVALUATION (Chapters - 1, 2, 4, 8 & 3)				
OCTOBER	9	**STRAIGHT LINES**	Introduction Slope of a Line	Brief recall of two dimensional geometry from earlier classes, Slope of a line and angle between two lines.
NOVEMBER	9	**STRAIGHT LINES (CONTD)**	Various forms of the equation of a line Distance of a point from a line	Various forms of equations of a line: parallel to axis, point-slope form, slope intercept form, two-point form, intercept form. Distance of a point from a line.
	11	**INTRODUCTION TO THREE DIMENSIONAL GEOMETRY**	Introduction Coordinate axes and coordinate planes in 3-demensional space Coordinates of a point in space Distance between two points Section formula	Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points
DECEMBER	6	**PERMUTATIONS & COMBINATIONS**	Introduction Fundamental principle of counting	Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of formula for npr and ncr and their connections, simple applications.
	7	**BINOMIAL THEOREM**	Introduction Binomial theorem for positive integral indices	Historical perspective, statement and proof of the binomial theorem for positive integral indices., Pascal's triangle, simple applications.

	10	**CONIC SECTIONS (NOT FOR MID TERM EVALUATION II)**	Introduction Sections of a cone Circle Parabola Ellipse	Sections of a cone: circle, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.
MID TERM EVALUATION II (Chapters - 13, 9, 11, 6 & 7)				
JANUARY	12	**LIMITS AND DERIVATIVES**	Introduction Intuitive idea of derivatives Limits Limits of Trigonometric functions Derivatives	Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions.Definition of derivative, relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.
	5	**LINEAR INEQUALITIES**	Introduction Inequalities Algebraic solutions of linear inequalities in one variable	Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.
FEBRUARY	14	**PROBABILITY**	Introduction Random experiments Event Axiomatic approach to probability	Events, occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes, probability of an event , probability of 'not' ,'and' and 'or' events.
FINAL EXAMINATION				

BHARATIYA VIDYA BHAVAN, KOCHI

YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

SUBJECT: HOME SCIENCE **CLASS: XI**

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
JUNE	Chapter 1 Introduction to Home Science	1. Concept of Home Science 2. Field of Home Science 3. Relevance of study of Home Science and career options	1. Definition of Home Science 2. Branches - Food and Nutrition, Human Development, Textiles and Clothing, Resource Management, Community and Extension 3. Importance and scope 4. Multidisciplinary - Combination of Science and Art.
	Chapter 2 - Understanding the Self.	1. Who am I? 2. Development and Characteristics of the Self(Development characteristics and needs of adolescents) 3. Influences on Identity	1. Definition and characteristics of adolescent 2. Biological and physical changes, Socio-cultural context, Emotional changes, Cognitive changes
JULY	Chapter 3 - Food, Nutrition, Health and Fitness	1. Definitions 2. Using Basic food Groups for planning Balanced Diets 3. Dietary patterns in Adolescence	1. Definition of Food, Nutrition, Nutrients, Balanced diet, RDA 2. Food Pyramid 3. Factors influencing eating behaviour 4. Eating disorders - Anorexia Nervosa and Bulimia Nervosa
	Chapter 4 - Management of Resources	1. Classification and chaaracteristics of resources 2. Management Process	1. Human and non-human resources 2. Process - Planning, Organising, Implementing, Controlling and Evaluation
JULY	UNIT TEST 1- CHAPTERS 1,2 & 3		

AUGUST	**Chapter 5- Fabric Around us**	**1. Definitions** **2. Classification of fibres** **3. Yarn processing** **4. Properties of fibre** **5. Fabric production** **6. Textile finish**	**1. Fibre, yarn** **2. Length - staple, filament; Origin - natural and manmade** **3. Spinning** **4. Physical, thermal, chemical and biological.** **5. Weaving, Knitting, felting, Braiding** **6. Basic and special finishes**
	Chapter 6 - Media and Communication Technology	**1. Definition** **2. Classification** **3. Functions of media** **4. Classification of communication technology**	**1. Communication** **2. Interpersonal and intrapersonal; Group and mass communication** **3. Modern communication technologies**
SEPTEMBER - OCTOBER	**Chapter 7- Concerns and needs in diverse contexts**	**1. Nutrition, Health and Hygiene** **2. Resources Availability and Management**	**1. Dimensions and indicators of health** **2. Factors affecting nutritional well being** **3. Malnutrition, Hygiene and Sanitation** **4. Time management** **5. Space management**
OCTOBER	**TERM END EVALUATION - CHAPTERS 1,2,3,4,5&6**		
NOVEMBER	**Chapter 8 -Survival, Growth and Development**	**1. Growth and development** **2. Aspects of development**	**1. Difference and meaning of growth and development** **2. Physical, Social, Emotional, Cognitive, Language and Motor Development**
	Chapter 9 - Nutrition, Health and Wellbeing	**1. Nutrition, Health and Well-being during infancy (birth – 12 months)** **2. Nutrition, Health and well-being of preschool children (1-6 years)** **3. Nutrition, Health and well-being of school-age children (7-12 years)**	**1. Immunity, Immunization, importance of breast feeding, weaning,nutritional problems (0-1year)** **2. Planning of balanced meal (1-6 years)** **3. Diet planning and healthy habits (7-12 years)**

DECEMBER	**Chapter 10 - Our Apparel**	**1. Clothing functions and the selection of clothes** **2. Factors affecting selection of clothing in India** **3. Understanding children‟s basic clothing needs** **4. Clothing requirements at different childhood stages**	**1. Modesty, Protection, Status and prestige,Adornment** **2. Age, Climate and season, Occasion, Fashion, Income** **3. Comfort, Safety, Self help, Appearance, Allowance for growth, Easy care, Fabrics** **4. Infancy, Childhood, Adolescents, CWSN**
	Chapter 11 - Health and Wellness	**1. Fitness and benefits of physical activity** **2. Categories of exercises** **3. Dimensions of wellness** **4. Coping with stress**	**1. Exercise - Aerobic, strength building, flexibility** **2. Dimensions of wellness - Social aspect, Physical aspect, Intellectual aspect, Occupational aspect, Emotional aspect, Spiritual aspect, Environmental aspect, Financial aspect,** **3. Simple techniques to cope with stress - Relaxation, Talking with friends/family, Reading, Spirituality, Music, Hobby, Yoga**
JANUARY	**UNIT TEST 2- CHAPTERS 7,8,&9**		
JANUARY	**Chapter 12 - Financial Management and planning**	**1. Types of family income** **2. Expenditure** **3. Budget making** **4. Savings** **5. Investment** **6. Credit**	**1. Money, real and psychic income and factors affecting income.** **2. Definition and factors affecting expenditure** **3. Investment - Bank, PO, LIC,PF** **4. Credit - 4Cs**
	Chapter 13 - Care and Maintenance of fabrics	**1. Need for care of clothes** **2. Laundering and storage of different types of clothes** **3. Stain removal** **4. Care label**	**1. Soaps and detergents, General rules for storage** **2. Techniques and reagents for stain removal, Principles of stain removal** **3. Washing instructions on care label**
FEBRUARY	**REVISION AND ANNUAL EXAMINATION**		

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
COMPUTER SCIENCE
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

CLASS: XI

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
JUNE	Unit II: Computational Thinking and Programming - 1 (Getting Started with Python)	Getting Started with Python	Introduction to problem solving and basics of Python programming Different Types of data
JULY	Unit II: Computational Thinking and Programming - 1 (SEQUENTIAL,CONDITIONAL STATEMENTS)	Sequentail Staement and Conditional staements)	Decision making based on boolean values
UNIT TEST 1 -31/07/2024 (GETTING STARTED WITH PYTHON, SEQUENTIAL,CONDITIONAL STATEMENTS)			
AUGUST	Unit II: Computational Thinking and Programming - 1 (WHILE LOOP)	While Loop	Looping / repetition
SEPTEMBER	Unit II: Computational Thinking and Programming - 1 (FOR LOOP,LISTS)	For loop,List	Looping / repetitionIntroduction to List and List Operations - collection of heterogeneous objects - mutable data type
TERM END EVALUATION -18/10/2024 (GETTING STARTED WITH PYTHON, SEQUENTIAL,CONDITIONAL STATEMENTS,ITERATIVE STATEMENT,LISTS IN PYTHON)			
OCTOBER	Unit II: Computational Thinking and Programming - 1 (TUPLE,DICTIONARY)	Tuple Dictionary	Introduction to tuple and tuple operations - collection of heterogeneous data - immutable data type Introduction to dictionary and dictionary operations - mapping of key-value pair
NOVEMBER	Unit II: Computational Thinking and Programming - 1 (STRINGS)	Strings	String operations

DECEMBER	Unit 1: Computer Systems and Organisation	Boolean Logic, Number System	Components of Computer System, Processor fundamentals, Storage Concept of Boolean logicConcept od Data and Data
UNIT TEST 2 -03/01/2025 (TUPLE,DICTIONARY,STRING,BOOLEAN LOGIC, NUMBER SYSYTEM)			
JANUARY	Unit 2: Computational Thinking and Programming - I Unit 3: Society, Law and Ethics	Python Modules Digital Footprint, Data protection, Malware	 Digital Society, Etiquettes in digital society, Data Protection
FEBRUARY	Unit 3: Society, Law and Ethics	Ewaste management	Environment Protection
FINAL EXAMINATTION (17/02/2025)			
MARCH			

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
INFORMATICS PRACTICES
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

CLASS: XI

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
JUNE	Unit: 2 Introduction to Python	Basics of Python programming, execution modes: - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operator, precedence of operators, data types, mutable and immutable data types, statements, expression evaluation. comments, input and output statements, data type conversion, debugging.	Python IDE, Python Tokens, Data types, Expressions, Statements,Input and Output, Debugging
JULY	Unit: 2 Introduction to Python	Control Statements: if-else, if-elif-else, while loop, for loop	Concept of conditional statement Concept of Iteration

UNIT TEST 1 (31/07/2024 - 07/08/2024)
TOPICS- Basics of Python programming, Selection statements(loops not included for the exam)

AUGUST	Unit: 2 Introduction to Python	Control Statements: for loop Lists: list operations - creating, initializing, traversing and manipulating lists	Concept of Iteration Concept of List
SEPTEMBER	Unit: 2 Introduction to Python	list methods and built-in functions – len(),list(),append(),insert(), count(),index(),remove(), pop(), reverse(), sort(), min(),max(),sum()	Concept of List
OCTOBER	Unit: 2 Introduction to Python	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements. Dictionary: dictionary methods and built-in functions – dict(), len(), keys(), values(), items(), update(), del(), clear()	Concepts of Dictionary : Key-value pair Concept of Dictionary methods and built-in functions.

TERM END EVALUATION (18/10/2024 - 30/10/2024)

TOPICS- Basics of Python programming, Control statements, Lists, Dictionary(built functions of dictionary are not included)

NOVEMBER	Unit 1 Introduction to Computer System	Introduction to computer and computing: evolution of computing devices, components of a computer system and their interconnections, Input/output devices. Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. Software: purpose and types – system and application software, generic and specific purpose software.	Concepts of Computer System
DECEMBER	Unit 3: Database concepts and the Structured Query Language	Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: Concept of domain, tuple, relation, candidate key, primary key, alternate key, Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language Introduction to MySQL, creating a database using MySQL, Data Types Data Definition: CREATE DATABASE, CREATE TABLE, DROP, ALTER	Concept of Database and Structured query language,Data types in MySQL, SQL for data definition

JANUARY	Unit 3: Database concepts and the Structured Query Language	Data Query: INSERT,SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL Data Manipulation: DELETE, UPDATE	Data insertion, Data Updation and Deletion
UNIT TEST 2 (03/01/2025 - 10/01/2025) TOPICS- Dictionary built in functions, Database concepts and the Structured Query Language , Introduction to creating database, creating tables, drop , alter)			
FEBRUARY	Unit 4: Introduction to the Emerging Trends	Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.	Artificial Intelligence,Big data and its characteristics,IOT, Cloud Computing and Cloud Services
FINAL EVALUATION (17/02/2025 - 28/02/2025) TOPICS- Introduction to Python programming, Database concepts and the Structured Query, Introduction to the emerging trends			

YEAR PLAN FOR THE ACADEMIC YEAR 2024-25
CLASS XI CHEMISTRY 043

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
JUNE	**Some Basic Concepts of Chemistry**	General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry	Laws of chemical combination- law of conservation of mass,law of definite proportion,lae of multiple proportionAvogadro's law,gay Lussac's law of gaseous volumes Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, average atomic massmole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry - concentration terms
JULY	**Structure of atom**	Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.	Subatomic particles, atomic number,mass number,isotopes,isobars, Nucleus,Electromagnetic theory of radiations,particle nature of radiation,black body radiations,photo electric effect,spectra,Bohr's postulates for hydrogen atom,negative energy of electron Dual nature of matter,orbits,orbitals,principal quantum number,azhimuthal quantum number,magnetic quantum number,spin quantum number, n + l rule, nodes, nodal planes,electronic configuration of atoms,ions,stable configurations
	Classification of Elements and Periodicity in Properties	Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.	Dobererier's triads,Law of octaves, Medeleev's law,Mendeleev's periodic table,Modern periodic law.Nomenclature of elements with atomic number greater than 100,Electronic configurations and types of elements-s,p,d,f blocks,Periodic trends in properties -Physical properties-atomic radii,ionic radii,inert gas radii, Ionization enthalpy,electron gain enthalpy,electronegativity,valency.Periodic trends in chemical properties -Periodictiy in valence or oxidation state,Anomalous propeeties of second period elements,Peridic trends in chemical reactivity
UNIT TEST - I 31/07/2024 TO 07/08/2024 PORTIONS- Some Basic Concepts of Chemistry,Structure of atom [Upto 2.6 - Quantum mechanical model of atom excluded.]			
AUGUST	**Chemical Bonding and Molecular Structure**	Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules,	Valence bond,Lewis structure,Octet rule,limitations of octet rule,formal charge,ioinc bod,factors affecting ionic bond,lattice enthalpy,bond parameters-bond length,bond angle,bond energy,bond enthalpy,bond order,Resonance,canonical structures,resonance energy,resonance hybrid
SEPTEMBER	**Chemical Bonding and Molecular Structure**	VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules(qualitative idea only), Hydrogen bond.	Repulsion between electron pairs,shapes-linear, trigonal planar, tetrahedral, trigonal bipyramid, octahedral,bent, seesaw, square pyramidal, square planar, PE curve for the H2 molecule formation, Nonexistence of He2molecule, Types of hybridization sp,sp2,sp3,dsp2,d2sp3,atomic and molecular orbitals MO energy level diagram, Hydrogen bonding- definition, reason, consequences
SEPTEMBER	**Chemical Thermodynamics**	Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation,	System,Surrounding,Open,Closed,Isolated system,urroundings, work, heat, energy, extensive and intensive properties, state functions,Reversible,Irrevrsible process,Isothermal,abdiabatic,isobaric,isochoric processes,First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation
OCTOBER	**Chemical Thermodynamics**	Enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction)Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes, criteria for equilibrium.Third law of thermodynamics (brief introduction).	Enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution.Entropy,Second law of Thermodynamics,Gibb's energy change for spontaneous and non- spontaneous processes, criteria for equilibrium. Third law of thermodynamics

TERM END EVALUATION **18/10/2024 TO 30/10/2024** **Portions - Some Basic Concepts of Chemistry,Structure of atom,Classification of Elements and Periodicity in Properties,Chemical Bonding and Molecular Structure**			
NOVEMBER	**Equilibrium**	Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization,ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples).	Reversible process,physical and chemical equilibrium,law of mass action,law of equilibrium,expression of equilibrium constant,characteristics of equilibrium constant,factors affecting equilibrium constant - pressure,temperature,concentration,presence of catalyst.Lechatelier's principle Electrolyte,strong and weak electrolyte,Ostwald's dilution law,degree of ionisation,poly basic acids,ka value acid strength,pH,pOH,Pkw,hydrolysis of salts,buffer solution,buffer action,Henderson equation,solubility, solubility product,common ion effect
DECEMBER	**Redox reactions**	Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.	Concept of oxidation and reduction, redox reactions, oxidation number, types of redox reaction,layer test,balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number,applications of redox reactions.
JANUARY	**Organic Chemistry -Some Basic Principles and Techniques**	General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.	Tetravalency of carbon,classification of organic compounds,IUPAC naming, functional group,homologous series,inductive effect, electromeric effect, resonance and hyper conjugation or no bond resonance,Stabilty of cabocations,free radicals,classification of intermediates ito electrophiles and nucleophiles,Purification methods - crystallisation,sublimation,distillation,fractional distillation,distillation under reduced pressure,steam distillation,Lassaigne's test,Dumas method,Kjeldahl's method
UNIT TEST -II **3/01/2025 TO 10/01/2025** **Portions - Chemical Thermodynamics,Equilibrium**			
FEBRUARY	**Hydrocarbons**	Classification of Hydrocarbons Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemicalreactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water,hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water. Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene.Carcinogenicity and toxicity.	Hydrocarbons,classification of hydrocarbons,IUPAC nomenclature,physical and chemical properties,catalytic reduction,free radical halogenation,combustion,reforming ,aromatisations,pyrolysis,Markovnikov's law,peroxide effect,ozonlysis,polymerisation,acidic character of alkynes,addition reactions,resonance,aromticity,Huckel's rule,electrophilic substitution,Arenium ion,adddtion reactions by benzene,directing influence,Carcinogenicity and toxicity
FINAL EXAMINATION **17/02/2025 TO 28/02/2025** **Some basic concepts of chemistry , Structure of atom , Classification of elements and periodocity in properties, Chemical bonding and molecular structure , Chemical thermodynamics, Equilibrium, Redox reactions, Organic chemistry - Some basic principles and techniques & Hydrocarbons**			

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA			
YEAR PLAN FOR THE ACADEMIC YEAR 2024-'25			
STD : XI ARTIFICIAL INTELLIGENCE			
MONTH	**TOPIC**	**SUB-TOPICS**	**CONCEPTS**
June	PART B: Unit 1: Introduction: Artificial Intelligence for Everyone PART A:Unit 1 : Communication Skills-III PART B Unit 2: Unlocking your Future in AI:	Unit 1: Introduction To AI: What is AI? History of AI What is Machine Learning What is data? Terminology and Related Concepts What machine learning can and cannot do More examples of what machine learning can and cannot do Jobs in AI Unit 1 : Communication Skills-III: Session 1: Introduction to Communication Session 2: Verbal Communication Session 3: Non-verbal Communication Session 4: Pronunciation Basics Session 5: Communication Styles — Assertiveness Session 6: Saying No — Refusal Skills PART B Unit 2: Unlocking your Future in AI: • The Global Demand • Some Common Job Roles In AI • Essential Skills and Tools for Prospective AI Careers	Unit 1: Introduction To AI: Artificial Intelligence (AI) , Machine Learning (ML) and Deep Learning (DL) Unit 1 : Communication Skills-III: Types of communication, Communication styles Unit 2: Unlocking your Future in AI: • Common Job Roles In AI • AI Careers • Opportunities in AI

July	PART B : UNIT 3 - PYTHON PROGRAMMING (Level 1) Level 1 : Basics of python programming, character sets, tokens, modes, operators, datatypes, Control Statements PART A: Unit 1 : Communication Skills-III	PART B Unit 2: AI Applications & Methodologies: Present day AI and Applications Key Fields of Application in AI Characteristics and types of AI Cognitive Computing (Perception, Learning, Reasoning) Recommended deep-dive in NLP, CV AI and Society The Future with AI, and AI in Action Non-technical explanation of deep learning PART A Unit 1 : Communication Skills-III Session 7: Writing Skills — Parts of Speech Session 8: Writing Skills — Sentences Session 9: Greetings and Introduction Session 10: Talking about Self Session 11: Asking Questions Session 12: Talking about Family Session 13: Describing Habits and Routines Session 14: Asking for Directions	Unit 2: AI Applications & Methodologies: AI applications, cognitive computing, Impact of AI on society Unit 1 : Communication Skills-III Writing skills, communication skills. UNIT 3 - PYTHON PROGRAMMING (Level 1) Level 1 : Basics of python programming, character sets, tokens, modes, operators, datatypes, Control Statements
"Unit Test I Starts: 31/07/2024 Introduction To AI - Unlocking your Future in AI - 1 Python Programming (Level 1) - Communication Skills-III -			

August	PART A: Unit 2 : Self-Management Skills-III PART B :UNIT 3 - PYTHON PROGRAMMING (Level 2) PART B: Unit 5: DATA LITERACY – DATA COLLECTION TO DATA ANALYSIS	Unit 2 : Self-Management Skills-III Session 1: Strength and Weakness Analysis Session 2: Grooming Session 3: Personal Hygiene Session 4: Team Work Session 5: Networking Skills Session 6: Self-motivation Session 7: Goal Setting Session 8: Time Management Unit 5: Data Literacy – Data Collection to Data Analysis • What is Data Literacy? • Data Collection • Exploring Data • Statistical Analysis of data • Representation of data, Python Programs for Statistical Analysis and Data Visualization • Introduction to Matrices • Data Pre-processing • Data in Modelling and Evaluation	Unit 2 : Self-Management Skills-III Self Awareness, Importance of working in team UNIT 3 - PYTHON PROGRAMMING (Level 2) Unit 5: DATA LITERACY – DATA COLLECTION TO DATA ANALYSIS

September	PART B: UNIT 8 – AI ETHICS AND VALUES PART A: Unit 3: Information and Communication Technology Skills-III	PART B: Unit 8: AI Values (Ethical Decision Making) AI: Issues, Concerns and Ethical Considerations PART A: Unit 3: Information and Communication Technology Skills-III Session 1: Introduction to ICT Session 2: Basic Interface of LibreOffice Writer Session 3: Saving, Closing, Opening and Printing Document Session 4: Formatting Text in a Word Document Session 5: Checking Spelling and Grammar Session 6: Inserting Lists, Tables, Pictures, and Shapes Session 7: Header, Footer and Page Number Session 8: Tracking Changes in LibreOffice Writer	Unit 8: AI Values (Ethical Decision Making) AI applications, Ethics , Bias , Jobs in AI age Unit 3: Information and Communication Technology Skills-III Basic operations in Libre Office Writer
"Term End Evaluation 1 Starts: 18/10/2024 **Introduction To AI -** 1 **Unlocking your Future in AI** · **Python Programming -** **DATA LITERACY – DATA COLLECTION TO DATA ANALYSIS** · **Communication Skills-III -** **Self-Management Skills-III** · ---- --- **AI Ethics and Values - Google**			

October	PART B: Unit 5: INTRODUCTION TO CAPSTONE PROJECT(Practical only) - (Theory questions can be asked only for Annual exam) PART A: Unit 4 : : Entrepreneurial Skills-III	PART B: Unit 5: INTRODUCTION TO CAPSTONE PROJECT(Practical only) Design Thinking Empathy Map Sustainable Development Goals Capstone Project PART A: Unit 4 : Entrepreneurial Skills-III • Session 1: Introduction to Entrepreneurship • Session 2: Values of an Entrepreneur • Session 3: Attitude of an Entrepreneur • Session 4: Thinking Like an Entrepreneur • Session 5: Coming Up with a Business Idea • Session 6: Understanding the Market • Session 7: Business Planning	PART B: Unit 5: INTRODUCTION TO CAPSTONE PROJECT(Practical only) Unit 4 : Entrepreneurial Skills-III Functions and qualities of an entrepreneur
November	PART B: UNIT 7 – LEVERAGING LINGUISTICS AND COMPUTER SCIENCE PART A: Unit 5 : Green Skills-III	PART B: UNIT 7 – LEVERAGING LINGUISTICS AND COMPUTER SCIENCE PART A: Unit 5 : Green Skills-III • Session 1: Sectors of Green Economy • Session 2: Policies for a Green Economy • Session 3: Stakeholders in Green Economy • Session 4: Government and Private Agencies	PART B: UNIT 7 – LEVERAGING LINGUISTICS AND COMPUTER SCIENCE Unit 5 : Green Skills-III • Green economy initiatives • Importance of green economy

December	PART B - UNIT 6 – MACHINE LEARNING ALGORITHMS	PART B: UNIT 6 – MACHINE LEARNING ALGORITHMS • Machine Learning in a nutshell • Types of Machine Learning • Supervised Learning • Understanding Correlation, Regression, Finding the line, Linear Regression algorithm	UNIT 6 – MACHINE LEARNING ALGORITHMS
	Unit Test II : 03/01/2024 **Leveraging Linguistics and Computer Science-** **Green skills -** **Entrepreneurial Skills-III -** **Machine Learning Algorithms -**		
February	Capstone Project / Practical and Revision Practical Exam (Before February 15)	Capstone Project / Practical and Revision Practical Exam (Before February 15)	Capstone Project / Practical and Revision Practical Exam (Before February 15)

"Final Examination : 17/02/2025
Communication Skills-III 2
Self-Management Skills-III 2
ICT Skills-III 2
Entrepreneurial Skills-III 2
Green Skills-III 2
Introduction: Artificial Intelligence for Everyone -
Unlocking your Future in AI
Python Programming -
Introduction to Capstone Project -
Data Literacy – Data Collection to Data Analysis -
Machine Learning Algorithms -
Leveraging Linguistics and Computer Science -
AI Ethics and Values -

BHARATIYA VIDYA BHAVAN,KOCHI KENDRA			
YEAR PLAN -2024-2025			
Std :XI PHYSICS			
MONTH	**TOPIC**	**SUB-TOPICS**	**CONCEPTS**
JUNE	**CHAPTER 1-** **UNITS AND MEASUREMENT** **CHAPTER 2-** **MOTION IN A STRAIGHT LINE**	Need for measurement: significant figures. Dimensions of physical quantities Describing motion, Relations for uniformly accelerated motion (graphical treatment).	Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures,Rounding off(Mathematical Operations using significant figures).Dimensions of physical quantities, dimensional analysis and its applications. Frame of reference, Motion in a straight line, uniform and non-uniform motion, Uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment).
JULY	**MOTION IN A STRAIGHT LINE (CONTD....)** **CHAPTER 3-** **MOTION IN A PLANE** **CHAPTER 4-** **LAWS OF MOTION(UPTO FRICTION)**	Instantaneous velocity Scalar and vector quantities; Vector operations Resolution of vectors Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion uniform circular motion Newtons first law of motion,Newton second law of motion,Newtons third law of motion,conservation of linear momentum ,Equilibrium of concurrent forces	Elementary concepts of differentiation and integration for describing motion, instantaneous velocity. Scalar and vector quantities,position and displacement vectors,general vectors and notations ,equality of vectors,multiplication of vectors by a real number,unit vector,Addition and subtraction of vectors,Resolution of a vector in a plane, rectangular components, Scalar and vector product of vectors, Motion in a plane,cases of uniform velocity and uniform acceleration, Projectile motion,Uniform circular motion. Intuitive concept of force, Inertia, Newton's first law of motion. Momentum and Newton's second law of motion; impulse.Newton's third law of motion. Law of conservation of linear momentum and its applications.Equilibrium of concurrent forces.

UNIT TEST 1 - **UNITS AND MEASUREMENT, MOTION IN A STRAIGHT LINE ,** **MOTION IN A PLANE UPTO PROJECTILE MOTION** **PROJECTILE MOTION NOT INCLUDED .**			
AUGUST	**LAWS OF MOTION (CONT..)** **CHAPTER 5-WORK ENERGY AND POWER**	Friction Work Energy Collision	Static and kinetic friction,laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion:Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road). Work done by a constant force and a variable force ,kinetic energy, work-energy theorem,power,Notion of potential energy,potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle. Elastic and inelastic collisions in one and two dimensions.

SEPTEMBER	**CHAPTER 6- SYSTEM OF PARTICLES AND ROTATIONAL MOTION** **CHAPTER 7- GRAVITATION**	Center of mass Moment of a force and angular momentum Equilibrium of rigid bodies Moment of inertia. Kepler's laws of planetary motion Universal law of gravitation Gravitational potential energy Escape speed, orbital velocity of a satellite	Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. Moment of a force, torque, angular momentum,law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). Kepler's laws of planetary motion universal law of gravitation.Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential Escape speed, orbital velocity of a satellite.
OCTOBER	**CHAPTER 8- MECHANICAL PROPERTIES OF SOLIDS**	Elastic behaviour of solids, Modulus of Elasticity Elastic Energy	Elasticity, Stress-strain relationship, Hooke's law,Young's modulus, bulk modulus, shear modulus of rigidity(qualitative idea only), Poisson's ratio; elastic energy
TERM END EXAMINATION I - UNITS AND MEASUREMENT,MOTION IN A STRAIGHT LINE , MOTION IN A PLANE , LAWS OF MOTION , WORK ENERGY AND POWER & SYSTEM OF PARTICLES AND ROTATIONAL MOTION			

NOVEMBER	**CHAPTER 9- MECHANICAL PROPERTIES OF FLUIDS** **CHAPTER 10 - THERMAL PROPERTIES OF MATTER** **CHAPTER 13 - OSCILLATIONS**	Pressure,Viscosity Surface tension, Capillary rise. Heat ,heat transfer, blackbody radiation Periodic motion,simple harmonic motion energy in SHM	Pressure due to a fluid column; Pascal's law and its applications, (hydraulic lift and hydraulic brakes), Effect of gravity on fluid pressure.Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, Angle of contact, excess of pressure across a curved surface, Application of surface tension, Ideas to drops, bubbles, Capillary rise Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity.Heat transfer-conduction, convection and radiation, thermal conductivity,qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law . Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications.Simple harmonic motion (S.H.M) and its equations of motion;phase; oscillations of a loaded spring- restoring force and force constant;energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.

DECEMBER	**CHAPTER 14-WAVES**	Wave motion,reflection of waves	Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, Reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.
	UNIT TEST II **GRAVITATION,** **MECHANICAL PROPERTIES OF SOLIDS & MECHANICAL PROPERTIES OF FLUIDS INCLUDING BERNOUILL'S THEOREM**		
JANUARY	**CHAPTER 11-THERMODYNAMICS** **CHAPTER 12-KINETIC THEORY OF GASES**	Zeroth law ,first law,Second law and thermodynamical process. Equation of state of a perfect gas,Kinetic theory of gases,degrees of freedom	Thermal equilibrium and definition of temperature, zeroth law of thermodynamics Heat, work and internal energy.First law of thermodynamics,Second law of thermodynamics:gaseous state of matter, changeof condition of gaseous state - isothermal, adiabatic,reversible, irreversible, and cyclic processes. Equation of state of a perfect gas,work done in compressinga gas.Kinetic theory of gases assumptions, concept of pressure.Kinetic interpretation of temperature; rms speed of gas molecules; Degrees of freedom,Law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path,Avogadro's number.

FEBRAURY	**REVISION** **FINAL EXAMINATION** **UNITS AND MEASUREMENT,** **MOTION IN A STRAIGHT LINE & MOTION IN A PLANE ,** **LAWS OF MOTION ,** **WORK ENERGY AND POWER ,** **SYSTEM OF PARTICLES AND ROTATIONAL MOTION ,** **GRAVITATION,** **MECHANICAL PROPERTIES OF SOLIDS & FLUIDS,** **THERMAL PROPERTIES OF MATTER &THERMODYNAMICS ,** **KINETIC THEORY OF GASES ,** **OSCILLATIONS & WAVES .**