



**TAGORE INTERNATIONAL SCHOOL  
EAST OF KAILASH, NEW DELHI**

**PARENT SYLLABUS  
Class XII 2023 -2024  
Science**

MONTH	English	Math	Physics	Chemistry	Biology	Computer science	Economics	Psychology	Ped.
<b>April and May</b>	<p><b>April Writing Skills:</b> Job Application, Notice writing, Article writing,</p> <p><b>Prose:</b> The Last Lesson, The Third Level Lost Spring,</p> <p><b>Poetry:</b> My Mother at Sixty-six, A Thing of Beauty</p> <p><b>Art Integrated Activity:</b>  Create a set of two quotes or design a poster related to child labour, on Pinterest</p> <p><b>Or</b>  Imagine that you</p>	<p><b>April Topic:</b> <b>Matrices and Determinants ( Revision)</b> <b>Subtopics:-</b> Symmetric and Skew Symmetric matrices. -Adjoint and inverse of a matrix. -Solving system of equations using matrix method</p> <p><b>Topic:</b> <b>*Continuity and Differentiability</b></p> <p><b>Subtopics:</b> -Continuity of a function -Chain Rule -</p>	<p><b>April Topic:</b> <b>Electric Field and Charges</b></p> <p><b>Subtopics:</b> *Electric Charges, Conservation of charge, Coulomb's law-force between two-point charges, forces between multiple charges.</p> <p>*Superposition principle and continuous charge distribution,</p> <p>* Electric field, electric field due to a point charge</p> <p>* Electric field lines, electric dipole, electric field due to a</p>	<p><b>April Topic:</b> Solutions <b>Subtopics:</b> -Types of solutions -Expression of concentration of solutions of solids in liquids -Solubility of gases in liquids, solid solutions, Raoult's law - Colligative Properties -Determination of molecular masses using colligative properties -Abnormal molecular mass and Vant Hoff Factor.</p> <p><b>Topic:</b> Haloalkanes and Haloarenes <b>Sub Topics:</b> -Haloalkanes: Nomenclature,</p>	<p><b>April Topic:</b> Human Reproduction <b>Subtopics:</b> -Gametogenesis -Menstrual cycle -Fertilization and Implantation -Pregnancy and embryonic development -Parturition and Lactation <b>Activities:</b> -Preparation of a temporary mount to observe pollen germination -Pollen germination on stigma through a permanent slide or scanning electron micrograph. <b>Topic:</b> Reproductive Health</p>	<p><b>April Class XI revision tour</b> Syntaxes-loops, if...else Revision Class XI-Functions Lists, Tuples, Dictionaries, Strings- functions and applications-</p> <p><b>File handling: Text Files</b> open and close a file, read, write, and append to a file, standard input, output, and error streams, relative and absolute paths. open() with open() close()</p>	<p><b>April</b> New Economic policy 1991 Liberalisation Privatisation Globalisation Reasons for adoption of the New Economic Policy</p> <p>Government budget</p> <p>Receipts Expenditure Deficits Objectives</p> <p><b>May</b>  National Income Accounting Income method Output method Expenditure method</p>	<p><b>April Chapter:</b> Variations in Psychological Attributes</p> <p>-Individual Differences in Human Functioning</p> <p>-Assessment of Psychological Attributes -Intelligence Theories of Intelligence - Theory of Multiple Intelligences - Triarchic Theory of Intelligence - Planning, Attention-arousal, and Simultaneous-successive Model of</p>	<p><b>April Unit I - Management of Sporting Events</b> Functions of Sports Events Management (Planning, Organising, Staffing, Directing &amp; Controlling)</p> <p>Various Committees &amp; their Responsibilities (pre; during &amp; post)</p> <p>Fixtures and its Procedures – Knock-Out (Bye &amp; Seeding) &amp; League (Staircase &amp; Cyclic)</p> <p>Intramurals and Extramurals</p> <p>Community Sports</p>

<p>are going to interview a renowned social reformer of your country, who has been working for the upliftment of child labourers in India. Frame a set of ten questions that you plan to ask him/her</p> <p><b>Life skills:</b> Critical thinking</p> <p><b>Values :</b></p> <p>Effective Communication, Being responsible</p> <p><b>Gender sensitivity:</b></p> <p>Gender Sensitivity at Workplaces</p> <p><b>Health and wellness:</b> Intellectual and social health</p> <p><b>SEWA:</b> Taking care of the elderly and community upliftment</p>	<p>Differentiability</p> <ul style="list-style-type: none"> <li>-Inverse trigonometric Derivatives.</li> <li>-Logarithmic Differentiation</li> <li>-Parametric Differentiation</li> <li>-Higher order Derivatives</li> </ul> <p><b>Topic:</b> <b>*Application of Derivatives</b></p> <p><b>Subtopics:</b> -Derivative as a rate measure -Increasing and decreasing function -Maxima and Minima</p> <p><b>May</b></p> <p><b>Topic:</b> <b>*Application of Derivatives</b></p> <p><b>Subtopics:</b> -Maxima and Minima</p> <p><b>Topic:</b> <b>*Integrals</b></p> <p><b>Subtopics:</b></p>	<p>dipole.*Torque on a dipole in uniform electric field, Potential Energy of a dipole in an external electric field</p> <p>*Electric Flux, Gauss's Theorem, Applications of Gauss's Theorem (field due to infinitely long straight charged wire and plane sheet of charge)</p> <p><b>Topic: Electric Potential and Capacitance</b></p> <p><b>Subtopics:</b>*Electric potential, potential difference, electric potential due to a point charge.</p> <p>*Electric potential due to a point charge, a dipole and system of charges; equipotential surfaces</p> <p>*Electrical potential energy</p>	<p>nature of C–X bond, physical and chemical properties, -optical rotation - mechanism of substitution reactions. - Haloarenes: Nature of C–X bond, substitution reactions - Directive influence of halogen in monosubstituted compounds only -Uses and environmental effects of - polyhalogenated compounds</p> <p><b>Activities:</b></p> <p>-Study of the application of reverse osmosis in water purifiers.</p> <p>-Chirality check for halogenated compounds- using 3-D models</p> <p>Art Integration Activity (Poster/ Comic strip)Topic: - Comparison of the reactivity of different types of alkyl halides towards <math>S_N2</math> and <math>S_N1</math> mechanism.</p>	<p><b>Subtopics: -</b> Reproductive health-problems and strategies -Population explosion and birth control -Medical termination of pregnancy -Sexually transmitted diseases -Infertility</p> <p><b>Art Integration 'Poster/Flyer'</b> Students will design a flyer/poster to create awareness on "Reproductive Health"</p> <p><b>Activities:</b> -Flowers adapted to pollination by different agencies (wind, insects, birds) -Controlled pollination - emasculation, tagging and bagging.</p> <p><b>Topic:</b> Principles of Inheritance and Variation</p> <p><b>Subtopics:</b> -Mendel's Laws of Inheritance</p>	<p>read() readlines() readline()</p> <p><b>Binary Files- (10 days)</b> Basic operations on a binary file: Open (filename – absolute or relative path, mode) / Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a binary file.</p> <p>Basic operations on a binary file: Open (filename – absolute or relative path, mode) / Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a</p> <p><b>Values-</b> Collaboration and</p>	<p>GDP and welfare</p> <p>Values</p> <p>To create awareness of the drawbacks and bring about change.</p> <p>Life skills</p> <p>Problem solving Critical thinking</p> <p>Gender Sensitivity</p> <p>Acceptance of a new model with equal rights</p>	<p>Intelligence -Individual Differences in Intelligence -Culture and Intelligence -Emotional Intelligence -Special Abilities -Aptitude : Nature and Measurement -Creativity</p> <p>Health and Wellness: Exercise and yoga</p> <p>LS: Pro-social behaviour</p> <p>Value: Empathy</p> <p>Gender sensitivity: Discrimination practices among gender roles.</p> <p>Activity: Finding out the relationship between creativity and intelligence by using an IQ test and a rating scale for</p>	<p><b><u>Unit II - Children &amp; Women in Sports</u></b></p> <p>Common Postural Deformities - Knock Knee; Bow Legs; Flat Foot; Round Shoulders; Lordosis, Kyphosis, and Scoliosis and their corrective measures</p> <p>Women participation in Sports</p> <p>Special consideration (Menarche &amp; Menstrual Dysfunction)</p> <p>Female Athletes Triad (Osteoporosis, Amenorrhea, Eating Disorders)</p> <p><b>May</b></p> <p><b><u>Unit III - Yoga as Preventive Measure for Lifestyle Disease</u></b></p> <p>Obesity: Procedure, Benefits &amp; Contraindications for <i>Tadasana</i>,</p>
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<p><b>May:</b></p> <p><b>Writing Skills:</b> Letter to the Editor</p> <p><b>Prose:</b> Deep Water, Tiger King</p> <p><b>Poetry:</b> Keeping Quiet</p> <p><b>Art integrated activity</b></p> <p><b>Role Play:</b></p> <p>Create a set of dialogues with four exchanges between William Douglas and his instructor discussing Douglas' fear of water and the instructor's help in removing the fear from his life. Play roles</p> <p><b>Life Skills:</b> coping with stress, managing emotions and problem solving</p> <p><b>Values:</b> perseverance,</p>	<p>-Integration by substitution.</p> <p>-Integration of Trigonometric function.</p> <p>-Standard Integrals</p> <p>-By parts</p> <p>-Partial Fraction</p> <p><b>Art Integration Activity-</b> Funnier side of exponential and logarithmic function</p> <p><b>Activities :</b></p> <p>1) To understand the concepts of max and min values of a function in a closed interval</p> <p>2) To understand the concepts of local maxima, local minima and point of</p>	<p>of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators.</p> <p>*Dielectrics, Electric polarisation, Capacitors and Capacitance.</p> <p><b>Activities:</b> <b>*Connect with real life:</b> * Electrostatic Shielding. *Working of ECG and EEG machines based on measurement of potential difference. * Working of Microwave Oven. <b>*Lab Activity:-</b> To find the resistivity of two/three wires by plotting a graph between current and potential difference.</p> <p>-To find the unknown resistance of a given wire using a meter bridge.</p>	<p>Lab Activity:</p> <p>-Determine the molarity and strength of the given <math>\text{KMnO}_4</math> solution by titrating it against M/40 Mohr's Salt solution. You are required to prepare 25 ml of M/40 Mohr Salt solution.</p> <p>-Determine the percentage purity of the given sample of <math>\text{KMnO}_4</math> by using titration between Mohr salt solution and <math>\text{KMnO}_4</math>.</p> <p><b>Life Skill:</b> Problem solving</p> <p><b>Value:</b> Responsibility and awareness</p> <p><b>Gender sensitivity:</b></p> <p>Gender and society</p> <p><b>Health and wellness:</b> Health, Diet and nutrition</p> <p><b>May Topic:</b> Alcohols, Phenols and Ethers</p>	<p>-</p> <p>Inheritance of One Gene</p> <p>-Test Cross</p> <p>-</p> <p>Incomplete Dominance</p> <p>-</p> <p>Codominance</p> <p><b>Activities:</b></p> <p>-</p> <p>Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice)</p> <p>-T.S. of blastula through permanent slides (Mammalian)</p> <p><b>Life Skill:</b> Building healthy relationship</p> <p><b>Value:</b> Building up a socially responsible and reproductively healthy society</p> <p><b>Gender Sensitivity:</b> Respecting the role and significance of both the</p>	<p>Team Spirit</p> <p><b>Gender Sensitivity-</b> Right to equality</p> <p><b>Health &amp; wellness:-</b> Right posture in front of Computer</p> <p><b>Life Skills-</b> Problem Solving Skills, Decision-making skills, Critical Thinking</p> <p><b>Activity:</b> Make Programs on text files and binary files</p> <p><b>May</b> Class XI Revision Tour-</p> <p>Project work Discussion</p> <p><b>Unit III: Database - Management:-</b> (11 days) Interface of python with an SQL database: connecting SQL with Python, performing insert,</p>		<p>creativity</p> <p><b>May</b></p> <p>Chapter: Self and Personality</p> <p>-Concept of self Cognitive and behavioural aspects of self</p> <p>-Self-esteem</p> <p>-Self-efficacy</p> <p>-Self-regulation</p> <p>-Culture and Self</p> <p>-Concept of Personality</p> <p>-Major approaches to the study of personality</p> <p>- Type Approaches</p> <p>- Trait Approaches</p>	<p><i>Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama</i></p> <p>Diabetes: Procedure, Benefits &amp; Contraindications for <i>Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottanasana, Ardha-Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati</i></p> <p>Asthma: Procedure, Benefits &amp; Contraindications for <i>Tadasana, Urdhwahastottansana,</i></p>
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<p>determination</p> <p><b>General Awareness:</b> awareness about bullying</p> <p><b>Sewa:</b> community upliftment</p> <p><b>Health and wellness:</b> mental fitness</p> <p><b>Gender sensitivity:</b> sensitivity towards all</p>	<p>inflection</p> <p>3)Construction of an open box of maximum volume from a given rectangular sheet by cutting equal square pieces from each corner</p> <p><b>Life Skill:</b>Critical Thinking,Problem Solving</p> <p><b>Values-</b>Responsibility</p> <p><b>Gender Sensitivity-</b> Gender Equality awareness</p> <p><b>Health and Wellness-</b>Emotional Balance</p> <p><b>General Awareness-</b>Time management - Equity and Equality</p> <p><b>Term-I Weekly test</b></p>	<p><b>Topic: Current Electricity</b></p> <p><b>Subtopics:</b>*Electric current, flow of electric charges in a metallic conductor.</p> <p>*Drift velocity, mobility, and their relation with electric current.</p> <p>*Ohm's law, electrical resistance, V-I characteristics (linear and non-linear)</p> <p>*Electrical resistivity and conductivity.</p> <p><b>Life Skill:</b>Critical Thinking,Problem Solving</p> <p><b>Value:</b>Curiosity and Optimism</p> <p><b>Health and Wellness:</b>Magic of Exercises.</p> <p><b>Gender Sensitivity:</b>Gender Equality.</p> <p><b>MAY</b></p> <p><b>Topic:Current</b></p>	<p><b>Subtopics:</b></p> <p>-Alcohols: Nomenclature, methods of preparation, physical and chemical properties of primary alcohols - Identification of primary, secondary and tertiary alcohols</p> <p>-Mechanism of dehydration -Uses with special reference to methanol and ethanol</p> <p>Phenols: Nomenclature, methods of preparation, physical and chemical properties -Acidic nature of phenol, Electrophillic substitution reactions -Uses of phenols. -Ethers: Nomenclature, methods of preparation, physical and chemical properties and uses.</p> <p><b>Topic: Biomolecules</b></p> <p><b>Subtopics:</b> -Carbohydrates -</p>	<p>genders</p> <p>Health and wellness: Reproductive health</p> <p><b>MAY</b></p> <p><b>Topic:</b> Principles of Inheritance and Variation (contd.)</p> <p><b>Subtopics:</b> -Inheritance of Two Genes - Chromosomal theory of inheritance -Linkage and Recombination -Sex Determination -Mutation -Pedigree Analysis -Genetic disorders</p> <p><b>Activities:</b> - Mendelian inheritance using seeds of different colour/sizes of any plant. -Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood</p>	<p>update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity application</p> <p><b>Values-</b> Say no to Bullying</p> <p><b>Gender Sensitivity-</b> Respect opposite gender in the team</p> <p><b>Life Skills-</b> Communication Skills Problem Solving Skills Decision-making skills Critical Thinking</p> <p><b>Activity:</b> Make Programs on CSV files and Python connctivity with MYSQL</p>		<p>- Psychodynamic Approach</p> <p>-Behavioural Approach</p> <p>-Cultural Approach</p> <p>-Humanistic Approach</p> <p>-Assessment of Personality</p> <p>Health and Wellness: Meditation</p> <p>Value: Integrity</p> <p>LS: Self care</p> <p>Gender sensitivity: Women contribution in formulation of personality theories.</p> <p>Activity: Collage on different approaches of personality</p>	<p><i>UttanMandukasana, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati, Gomukhasana Matsyaasana, Anuloma-Viloma</i></p> <p>Hypertension: Procedure, Benefits &amp; Contraindications for <i>Tadasana, Katichakransana, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasana, Vakrasana, Makarasana, Shavasana, Nadishodhanaprana yam, Sitlipranayam</i></p> <p>Back pain/Arthritis</p>
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	<p><b>04.05.2023</b></p> <p><b>Syllabus:</b> Matrices, Determinants, Continuity and Differentiability (Only Differentiation will be tested from Continuity and Differentiability )</p>	<p><b>Electricity(contd )</b></p> <p><b>Subtopics:</b>Electrical energy and power,Emf and potential difference and internal resistance of cell.</p> <p>Cells in series and parallel,Kirchhoff's laws and simple applications,</p> <p>Wheatstone bridge, meter bridge.</p> <p><b>Topic: Moving Charges and Magnetism</b></p> <p><b>Subtopics:</b></p> <p>*Concept of magnetic field, Oersted's experiment</p> <p>*Biot - Savart law and its applications</p> <p>*Ampere's law and its applications to infinitely long straight wire</p>	<p>Classification, monosaccharides - Glucose and fructose structures, -D-L configuration - Oligosaccharides and polysaccharides -Importance of carbohydrates - Proteins Classification of amino acids, peptide bond, polypeptides, proteins -Structure of proteins - Denaturation of proteins -Vitamins - Classification and functions. -Nucleic Acids: DNA and RNA</p> <p><b>Topic:</b> Electrochemistry <b>Subtopics:</b> -Redox reactions, -Electrochemical &amp; electrolytic cells -Electrode potential and its measurement -EMF of a cell, standard electrode potential -Electrochemical series and its applications -Nernst equation</p>	<p>groups, ear lobes, widow's peak and colour blindness.</p> <p><b>Topic:</b> Molecular basis of Inheritance <b>Subtopics:</b> -Structure of polynucleotide chain - Packaging of DNA helix -The Search for Genetic Material -The Genetic material is DNA -Replication -Transcription <b>Activities:</b> -Prepare a temporary mount of onion root tip to study mitosis. -Meiosis in onion bud cell or grasshopper testis through permanent slides</p> <p><b>Life Skill:</b> Problem solving <b>Value:</b> Concern for life <b>Gender Sensitivity:</b> Genes influence gender identity <b>Health and wellness:</b></p>				
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		<p>*Straight and toroidal solenoids (only qualitative treatment)</p> <p>*Force on a moving charge in uniform magnetic field</p> <p>*Force on a current carrying conductor in a uniform magnetic field, between two parallel current-carrying conductors.</p> <p>*Torque experienced by a current loop in uniform magnetic field.</p> <p>*Moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter.</p> <p><b>Activities:</b></p> <p>*<b>Research on</b> Role of magnetism in ground control of artificial satellites.</p> <p>*<b>Lab Activity:</b></p> <p>-To determine the</p>	<p>&amp; related derivations and numerical</p> <p><b>Activities:</b></p> <p>Construct an electrochemical cell using different electrodes and fruits / vegetables and compare the cell output.</p> <p><b>Lab Activity:</b></p> <p><b>-Determine the strength of the given <math>\text{KMnO}_4</math> solution by titrating it against M/40 Oxalic acid solution.</b></p> <p><b>-Determine the percentage purity of the given sample of <math>\text{KMnO}_4</math> by using titration between oxalic acid and <math>\text{KMnO}_4</math>.</b></p> <p><b>Life Skills:</b>Critical Thinking</p> <p><b>Values:</b>Fostering Respect For Differences</p> <p><b>Gender sensitivity:</b></p> <p>Gender</p>	Genetic disorders				
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resistance of a galvanometer by half deflection method.

-To determine the frequency of ac using a sonometer.

**\*Art Integration:**

Comic Strip design on conversation between electric field intensity and magnetic flux density.

**Life Skill:** Web of relationship, Critical thinking

**Value:** Honesty and Integrity.

**Health and Wellness:** Magic of Meditation

**Gender Sensitivity:** Gender Bias

Awareness

**Health and wellness:**

Meditation and health

**Weekly Test I (12.05.23)**

-Solutions

-Haloalkanes and Haloarenes



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