



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

**Class XI**  
**TERM II**

**PARENT SYLLABUS 2026 -2027**  
**SCIENCE**

Month	English	Physics	Math	Chemistry	Biology	Computer Science	Economics	Psychology	P.Ed.
October	<p><b>Topic: Mother's Day</b></p> <p><b>Sub-topics:</b></p> <ul style="list-style-type: none"> <li>Introduction to the author J. B. Priestley and background of the play</li> <li>Character sketch – Mrs Pearson, Mrs Fitzgerald, Doris, Cyril and George Pearson</li> <li>Changing behaviour of the Pearson family towards Mrs Pearson</li> <li>Theme of gender roles, self-respect and</li> </ul>	<p><b>Topic:</b> System of Particles and Rotational Motion</p> <p><b>Subtopics:</b></p> <ul style="list-style-type: none"> <li>-Angular momentum, its conservation along with applications</li> </ul> <p><b>Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>-explain how angular momentum is conserved in isolated systems</li> <li>-interpret scenarios (e.g.,</li> </ul>	<p><b>Topic:</b> Straight Lines</p> <p><b>Sub- Topics</b></p> <ul style="list-style-type: none"> <li>*Introduction</li> <li>*Slope of a line</li> <li>*Slope of line when coordinates of any two points on the line are given</li> <li>* Condition of parallelism and perpendicularity of lines in terms of their slopes</li> <li>*Angle between two</li> </ul>	<p><b>Topic:</b> Chemical Bonding and Molecular Structure</p> <p><b>Sub-Topics:</b></p> <ul style="list-style-type: none"> <li>Valence bond theory of covalent bond-</li> <li>Orbital overlap concept-<math>\sigma</math> and <math>\pi</math> bond</li> <li>Bond characteristics, Resonance</li> <li>Concept of Hybridisation (concept, types- <math>sp^3</math>, <math>sp^2</math>, <math>sp</math>, <math>sp^3d</math>, <math>sp^3d^2</math>, <math>sp^3d^3</math>)</li> <li>Concept of</li> </ul>	<p><b>Topic:</b> Plant Growth and Development</p> <p><b>Subtopics:</b></p> <ul style="list-style-type: none"> <li>-Growth</li> <li>-Differentiation, Dedifferentiation and Redifferentiation</li> <li>Development</li> <li>-Plant Growth Regulators</li> </ul> <p><b>Learning Outcomes</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>-state the</li> </ul>	<p>Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership &amp; slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting</p>	<p><b>Producer's Behaviour and Supply</b></p> <p>Meaning of production, Production function (Short run concept), Relationship between TP, AP, and MP, Law of Variable Proportions, Relationship between cost curves, Concepts of Revenue, Producer's equilibrium (MC = MR approach), Meaning of supply, Law of supply,</p>	<p><b>Topic: Human Development</b></p> <p><b>Subtopics:</b> Nature of human development</p> <p>Life-span perspective (prenatal stage to old age)</p> <p>Principles of development (continuity vs discontinuity, etc.)</p> <p>Cognitive, emotional and social development</p> <p>Challenges across developmental stages (adolescence,</p>	<p><b>Topic</b></p> <p>Fundamentals of Anatomy, Physiology in Sports</p> <p><b>Subtopic</b></p> <ol style="list-style-type: none"> <li>Definition and importance of Anatomy and Physiology in Exercise and Sports.</li> <li>Functions of Skeletal System, Classification of Bones, and Types of</li> </ol>

<p><b>Health and Wellness</b></p>	<p>family relationships</p> <ul style="list-style-type: none"> <li>Humour, irony and dramatic elements in the play</li> <li>Relevance of the play in contemporary society</li> </ul> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>Analyse the character of Mrs Pearson citing at least 3 textual evidences.</li> <li>Trace the transformation in Mrs Pearson's personality in a structured paragraph.</li> <li>Identify 4 literary/dramatic devices with examples from the play.</li> <li>Evaluate the theme of gender inequality and emotional neglect in a 200-word analytical</li> </ul>	<p>spinning skater, ballerinas, divers) using angular momentum principles</p> <p><b>Topic- GRAVITATION</b></p> <p><b>Subtopics-</b></p> <ul style="list-style-type: none"> <li>Universal law of gravitation. Acceleration due to gravity (recapitulation only)</li> <li>Variation of acceleration due to gravity with altitude and depth</li> <li>Gravitational Field Intensity,</li> <li>Gravitational potential energy and gravitational potential</li> <li>Superposition Principle and</li> </ul>	<p>lines</p> <ul style="list-style-type: none"> <li>Various forms of equations of lines</li> <li>Distance of a point from a line</li> </ul> <p><b>Learning Outcomes:</b></p> <p><b>Each student will be able to:</b></p> <ul style="list-style-type: none"> <li>find the slope of a line</li> <li>Various forms of a line</li> <li>one-point form,</li> <li>two-point form,</li> <li>slope-intercept form,</li> <li>intercept form,</li> <li>find the equation of a line using the various forms of Line.</li> <li>Calculate the distance of a point from a</li> </ul>	<p>Hybridisation (types- <math>sp^3</math>, <math>sp^2</math>, <math>sp</math>, <math>sp^3d</math>, <math>sp^3d^2</math>, <math>sp^3d^3</math>)</p> <p>VSEPR Theory and its limitations</p> <p>Polar and non-polar covalent bond-Dipole moment</p> <p>Hydrogen bonding-concept, types and its effects on physical properties.</p> <p>Molecular orbital theory, energy level diagrams (diatomic homoatomic molecules)</p> <p><b>Learning Outcomes:</b></p> <p>Predict the directional properties of covalent bond.</p> <p>Discuss the concept of Resonance &amp; also draw the resonating</p>	<p>characteristics and conditions for growth</p> <ul style="list-style-type: none"> <li>name the three phases of growth</li> <li>plot graphs to show arithmetic and geometric growth</li> <li>explain differentiation, dedifferentiation and redifferentiation</li> <li>describe the characteristics, discovery, physiological effects and application of various plant growth regulators</li> </ul> <p><b>Topic:</b></p> <p>Breathing and Exchange of Gases</p> <p><b>Subtopics:</b></p> <ul style="list-style-type: none"> <li>Respiratory</li> </ul>	<p>the frequency of elements in a tuple</p> <p><i>Flipped Learning:</i></p> <p>Mind Map</p> <p>NCERT Chapters extract</p> <p>YouTube videos</p> <p>Introduction to Python modules: Importing module using 'import &lt;module&gt;' and using from statement, Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode)</p> <p><i>Flipped Learning:</i></p> <p>Mind Map</p> <p>NCERT Extract</p> <p>Youtube videos on randomization</p> <p><b>Learning Outcomes</b></p> <p>Each child will be</p>	<p>Factors affecting supply, elasticity of Supply</p> <p><b>Learning Outcome:</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>Define production and identify its factors.</li> <li>Define TP, AP, and MP.</li> <li>Explain the law of variable proportions.</li> <li>Identify rational and irrational stages of production.</li> <li>Derive relationships between cost curves.</li> <li>Determine producer's equilibrium.</li> </ul>	<p>adulthood, ageing)</p> <p>Factors influencing development (heredity and environment)</p> <p><b>Learning Outcomes:</b></p> <p>Explain the nature of human development using real-life examples</p> <p>Differentiate between various stages of development and their characteristics</p> <p>Analyse developmental changes (physical, cognitive, socio-emotional)</p> <p>Relate developmental challenges to real-life situations (e.g., adolescence issues)</p> <p>Apply understanding of development to improve relationships and self-awareness</p> <p>Evaluate the role of</p>	<p>Joints.</p> <ol style="list-style-type: none"> <li>Properties and Functions of Muscles.</li> <li>Structure and Functions of Circulatory System and Heart.</li> <li>Structure and Functions of Respiratory System.</li> </ol> <p><b>Learning Outcome</b></p> <ul style="list-style-type: none"> <li>The students will learn the meaning and definition &amp; identify the importance of anatomy, physiology, and kinesiology.</li> <li>Students will understand the main functions and</li> </ul>
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	<p>paragraph. <b>Activity 1:</b> Role Play: Enact a conversation between Mrs Pearson and her family members before and after the transformation scene. <b>Activity 2:</b> Art Integrated Activity: Write a diary entry depicting Mrs Pearson's life and her changing relationship with her family. <b>Gender:</b> Respect for homemakers and recognition of their contribution within the family.</p>	<p>its application *Escape velocity, orbital velocity of a satellite *Numericals  <b>Learning Outcomes</b> *derive mathematical equations to explain the variation of g with altitude above the surface of earth and depth below the surface of earth. *compare gravitational field with that of magnetic field *derive mathematical expressions for gravitational potential energy and potential.</p>	<p>line <b>Activity</b> To verify that the equation of a line passing through the intersection of two lines <math>a_1x + b_1y + c_1 = 0</math> and <math>a_2x + b_2y + c_2 = 0</math> is of the form <math>(a_1x + b_1y + c_1) + \lambda (a_2x + b_2y + c_2) = 0</math>. <b>Life Skills –</b> Critical Thinking, Communication, Team Work, Drawing Skill, Interpretation  <b>Gender Sensitivity –</b> Equality and Inclusion  <b>Values –</b> Precision and Logical</p>	<p>structures. Draw and explain the hybridization patterns for different molecules. Apply VSEPR Theory to predict the geometries of molecules. Define dipole moment and discuss its applications. Explain H-bonding and its requirements. Differentiate between inter and intra molecular hydrogen bonding. Differentiate between <math>\sigma</math> &amp; <math>\pi</math> bonds. Explain the postulates of Molecular Orbital Theory. Differentiate between bonding and anti-bonding</p>	<p>organs and human respiratory system -Mechanism of breathing and respiratory volumes and capacities -Exchange of gases -Transport of gases -Regulation of respiration and disorders of respiratory system  <b>Learning Outcomes</b> Each student will be able to: -name the respiratory organs of fish, earthworm, insects and mammals -explain human respiratory</p>	<p>able to: Ø Define tuples Ø Declare tuples Ø Apply tuple based functions in programs Ø Differentiate between tuples and lists Ø Apply steps of using modules and import different modules Ø Apply randomization concepts in programming using random module  Skills: Logical Reasoning  Activity Creating a game using concepts of</p>	<p>*Identify factors affecting supply. <b>Activity 1:</b> Students are given cost and revenue data to find equilibrium output using <math>MC = MR</math>. <b>Activity 2:</b> Students will analyze cost curves and explain U-shape behavior collaboratively. <b>Activity 3:</b> Students simulate production (e.g., making paper boats/cards). Different groups use varying numbers of "labour" while keeping other factors constant to observe changes in output.</p>	<p>heredity and environment in shaping development  <b>Activity:</b> Students will be given a "developmental timeline puzzle" (mixed cards with behaviors such as "learning to walk", "identity crisis", "retirement adjustment", etc.). They must: Arrange the events in correct developmental stages Justify why each behavior belongs to that stage  <b>Activity:</b> Students will be taken to different areas of the school (e.g., playground, primary section, staff room vicinity). They will: Observe behaviors of different age groups (children, adolescents, adults) Return to class and recall observations.  Students will identify</p>	<p>Classification of Bone and the Types of Joints. . • The students will learn the Properties and Functions of Muscles. • The students will learn the Structure and Functions of the Circulatory System and Heart. • The students will learn the Structure and Functions of Respiratory System.  <b>Topic</b> Fundamentals Of Kinesiology And</p>
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		<p>*apply the superposition principle to find the resultant gravitational field intensity for simple mass configuration.</p> <p>*differentiate between escape velocity and orbital velocity.</p> <p>*deduce the mathematical equations for escape velocity and orbital velocity.</p> <p><b>Topic-</b> <b>Properties of Bulk Matter</b></p> <p><b>Subtopics-</b> *Difference between stress and strain, types of stress and strain *Elastic</p>	Reasoning	<p>molecular orbitals. Draw the energy level diagrams of homo diatomic molecules to predict their magnetic behavior</p> <p><b>Activity 1</b> <b>Art Integration Activity</b> <b>3-D Ball and Stick models</b> Design two (3-D) molecular models [for covalent compounds / isomers / diamond / graphite (allotropes of C)] and explain the hybridisation involved in the structure of compound (using materials of your choice).</p> <p><b>Activity 2</b> <b>Lab Activity</b></p>	<p>system -draw respiratory system of human beings -list the steps involved in respiration -describe exchange and transport of gases -draw oxygen dissociation curve -name any two disorders of respiratory system -differentiate between inspiration and expiration</p> <p><b>Topic:</b> Body Fluids and Circulation</p> <p><b>Subtopics:</b> -Blood and Blood groups -Coagulation of</p>	randomization (stone/paper/scissors)		<p>Differences in: Social behavior Emotional expression Communication styles Link observations to developmental stages</p> <p><b>Life Skills:</b> Self-awareness (understanding one's own developmental stage) Empathy towards different age groups Adaptability to developmental changes Effective time management across life stages</p> <p><b>Values:</b> Respect for all age groups (children, adults, elderly) Sensitivity towards developmental challenges Patience and understanding in social interactions</p> <p><b>Gender Sentivity:</b> Discuss how developmental</p>	<p>Biomechanics in Sports</p> <p><b>Subtopic</b></p> <ol style="list-style-type: none"> <li>1. Definition and Importance of Kinesiology and Biomechanics in Sports.</li> <li>2. Principles of Biomechanics</li> <li>3. Kinetics and Kinematics in Sports</li> <li>4. Types of Body Movements - Flexion, Extension, Abduction, Adduction,</li> </ol>
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		<p>behaviour, stress strain relationship</p> <p><b>Learning Outcomes</b></p> <p>*differentiate between stress and pressure, stress and strain and their types. *graphically represent the variation of stress with strain</p> <p><b>Activity 1-</b></p> <p>Students will note the time taken by different objects (paper, cloth, coin etc) to fall through the same height under acceleration due to gravity and draw their own conclusion.</p>		<p><b>(Salt analysis)</b></p> <p>To determine an anion and a cation present in the given unknown salt sample.</p> <p><b>Value:</b></p> <p>Fostering Respect for Differences</p>	<p>blood, Lymph and Circulatory pathways</p> <p>-Human circulatory system</p> <p>-Cardiac cycle</p> <p><b>Learning Outcomes</b></p> <p>Each student will be able to</p> <p>-mention the different components of human blood and state their functions</p> <p>- list the four types of blood groups and their donor compatibility</p> <p>-give reason as to why the wound does not continue to bleed for a long-time</p> <p>-state the function of the lymphatic system.</p> <p>-differentiate</p>			<p>expectations differ across genders</p> <p>Challenge stereotypes (e.g., emotional expression, career roles)</p> <p>Promote equal opportunities and growth for all genders</p>	<p>Rotation, Circumduction, Supination &amp; Pronation</p> <p>5. Axis and Planes – Concept and its application in body movements</p> <p><b>Learning Outcome</b></p> <ul style="list-style-type: none"> <li>• The students will learn the meaning and definition &amp; identify the importance of Kinesiology and Biomechanics in sports.</li> <li>• To make the students learn the principles of biomechanics</li> <li>• To make the</li> </ul>
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		<p><b>Activity 2- Compression of Sponge</b>  <b>Activity:</b>          Press a sponge from different directions and observe the change in shape and volume. Students can identify different types of stress and strain.</p> <p><b>Life Skill:</b>          Honesty and Integrity</p>			<p>between open and closed circulatory systems.          -explain the cardiac cycle</p> <p><b>Activity 1</b>          Study of osmosis by potato osmometer.</p> <p><b>Activity 2</b>          Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.</p> <p><b>Health and Wellness:</b>          Clean Air Awareness</p>				<p>students understand the concept of Kinetics and Kinematics in Sports</p> <ul style="list-style-type: none"> <li>• To make the students learn about different types of body movements.</li> <li>• To make the students understand the concept of Axis and Planes and its application in body movements</li> </ul>
<p><b>November</b></p> <p><b>Topic</b></p> <p><b>Subtopic</b></p>	<p><b>Topic:</b>  <i>Childhood</i>  <b>Sub-topics:</b>          • Introduction to the poet Markus Natten and background of the poem</p>	<p><b>Topic-</b>  <b>Properties of Bulk Matter</b></p> <p><b>Subtopics-</b>          *Hooke' s Law, three moduli of elasticity</p>	<p><b>Topic:</b> Conic Sections (4)  <b>Subtopics:</b>          *Introduction          *Sections of a cone          * Circle, ellipse,</p>	<p><b>Topic:</b>  <b>Organic Chemistry: Some Basic Principles And Techniques</b>  <b>Sub-Topics:</b>  <b>Introduction to</b></p>	<p><b>Topic:</b>          Body Fluids and Circulation</p> <p><b>Subtopics:</b>          -          Electrocardiogra</p>	<ul style="list-style-type: none"> <li>• Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item,</li> </ul>	<p><b>Correlation</b></p> <p>Subtopics:</p> <p>Meaning of correlation, Types: Positive, Negative, Zero correlation,</p>	<p><b>Topics: Sensory, Attentional and Perceptual Processes</b></p> <p><b>Subtopics:</b> Nature of sensation and sensory processes</p>	<p><b>Topic</b>          Psychology and Sports</p> <p><b>Subtopic</b>          1. Personality; its definition &amp; types (Jung</p>

<p><b>Learning Outcome</b></p> <p><b>Activity 1</b></p> <p><b>Activity 2</b></p> <p><b>Life Skill</b></p> <p><b>Value</b></p> <p><b>Gender</b></p> <p><b>Health and Wellness</b></p>	<ul style="list-style-type: none"> <li>• Theme of loss of innocence and growing up</li> <li>• Transition from childhood to adulthood</li> <li>• Confusion, individuality and self-discovery</li> <li>• Imagery, symbolism and poetic devices in the poem</li> <li>• Relevance of the poem in contemporary society</li> </ul> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Analyse the poet's idea of childhood citing at least 3 textual references.</li> <li>• Trace the stages of the poet's realization about growing up in a structured paragraph.</li> <li>• Identify 4 poetic devices with examples from the poem.</li> </ul>	<p>*Pressure due a liquid column, Pascal's Law and its application, effect gravity on liquid pressure</p> <p>*Viscosity, Stoke's Law, terminal velocity, streamline and turbulent flow</p> <p>*Bernoulli's theorem and its application</p> <p>*Surface energy, surface tension</p> <p>*Excess pressure, liquid drop and soap bubble</p> <p><b>Learning Outcomes</b></p> <p>*state the following: Hooke's law &amp; Pascal's law</p> <p>*correlate the same with day to day observation</p> <p>*derive expressions for liquid pressure.</p> <p>*explain the principles of</p>	<p>parabola and hyperbola</p> <p>* Degenerated conic sections</p> <p>* <b>Circle</b></p> <p>*Introduction</p> <p>*Sections of a cone</p> <p>* <b>Parabola</b></p> <p>* Latus rectum</p> <p>* <b>Ellipse</b></p> <p>* Relationship between semi-major axis, semi-minor axis and the distance of the focus from the centre of the ellipse</p> <p>* Special cases of an ellipse</p> <p>* Eccentricity</p> <p>* Standard equations of an ellipse</p> <p>* Latus rectum</p> <p>*<b>Hyperbola</b></p> <p>*Eccentricity</p> <p>* Standard equations of an hyperbola</p>	<p><b>organic compounds, Nature of Carbon</b></p> <p><b>Types of Structures and representations</b></p> <p><b>Classification</b></p> <p><b>Nomenclature</b></p> <p><b>Isomerism- structural &amp; stereoisomerism</b></p> <p><b>Fundamental concepts in organic reaction mechanism (homolytic &amp; heterolytic fission, intermediate formation</b></p> <p><b>Inductive effect</b></p> <p><b>Inductive effect &amp; Electromeric effect</b></p> <p><b>Learning Outcomes:</b></p> <p><b>Explain the nature of carbon and</b></p>	<p>ph</p> <p>-Double circulation</p> <p>-Regulation of cardiac activity - Disorders of circulatory system</p> <p><b>Learning Outcomes</b></p> <p>Each student will be able to</p> <p>-describe the working of the double circulation system.</p> <p>-compare single circulation and double circulation</p> <p>-interpret ECG and understand its clinical significance.</p> <p>-identify and explain common disorders of the circulatory</p>	<p>modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy()); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them</p> <p><i>Flipped Learning:</i></p> <p>Mind Map</p> <p>NCERT Chapters</p>	<p>Degrees of correlation, Scatter Diagrams, Karl Pearson's Method, Rank Coefficient of Correlation</p> <p><b>Learning Outcomes:</b></p> <p>Students will be able to:</p> <p>*Define correlation and its significance.</p> <p>*Differentiate between types of correlation.</p> <p>*Construct scatter diagrams using given data and interpret direction and degree of correlation visually.</p> <p>*Evaluate and interpret the degree of relationship</p>	<p>Attention: selective attention, divided attention, factors affecting attention</p> <p>Perception: nature and principles</p> <p>Perceptual organization (Gestalt principles)</p> <p>Perceptual constancies and illusions</p> <p>Factors influencing perception (context, expectations, motivation)</p> <p><b>Learning Outcomes:</b></p> <p>Explain sensation, attention, and perception using real-life examples</p> <p>Differentiate between sensation and perception</p> <p>Analyse how attention works in everyday situations</p>	<p>Classification &amp; Big Five Theory).</p> <p>2. Motivation, its type &amp; techniques.</p> <p>3. Exercise Adherence: Reasons, Benefits &amp; Strategies for Enhancing it.</p> <p>4. Meaning, Concept &amp; Types of Aggressions in Sports.</p> <p>5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk, Goal Setting.</p> <p><b>Learning Outcome</b></p> <p>The students will be able to:</p>
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	<p>• Evaluate the theme of loss of innocence and identity in a 200-word analytical paragraph.</p> <p><b>Activity 1:</b> Role Play / Speaking Activity: Students share or enact situations that mark the transition from childhood to maturity.</p> <p><b>Activity 2:</b> Art Integrated Activity: Create a mind map, collage, or illustrated timeline depicting memories of childhood and the journey towards adulthood.</p> <p><b>Values:</b> Self-awareness, emotional growth, individuality, and appreciation of</p>	<p>dynamic uplift, terminal streamline and turbulent flow.</p> <p>*infer the spherical shapes of drops and bubbles is due to surface tension</p> <p>*explain the origin of surface tension on the basis of molecular theory</p> <p>*derive expression for excess pressure due to liquid drop and soap bubble</p> <p><b>Topic- Oscillation and Waves</b></p> <p><b>Subtopics-</b> *Periodic motion and their representation in the form of periodic functions, Simple harmonic motion, and its equation</p>	<p>* Latus rectum</p> <p><b>Each child will be able to:</b></p> <p>*define a parabola and recognize/find the standard equation of parabola</p> <p>*define/find the coordinates of focus, axis, equation of directrix and length of latus rectum of a parabola</p> <p>*define an ellipse and recognize /find the standard equations of an ellipse</p> <p>*state the relationship between semi-major axis, semi-minor axis and the distance of focus from the</p>	<p><b>formation of organic compounds. Give reasons for the tetravalency of carbon</b></p> <p><b>Differentiate between organic and inorganic compounds. Interpret the types of bonds in a molecule based on hybridization. Draw the structures of organic molecules in various ways (complete, condensed). Classify the organic compounds using flow diagram. List some characteristic features of pi bonds. Explain how</b></p>	<p>system such as hypertension, coronary artery disease, and heart failure.</p> <p><b>Topic:</b> Excretory Products and their Elimination</p> <p><b>Subtopics:</b> -Modes of excretion and Human excretory system -Urine formation -Function of tubules -Mechanism of concentration of filtrate -Regulation of kidney function and micturition -Role of other organs of excretion - Disorders of excretory system</p>	<p>extract YouTube videos</p> <p>Unit III: Society, Law and Ethics</p> <ul style="list-style-type: none"> <li>• Digital Footprints</li> <li>• Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes</li> <li>• Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)</li> <li>• Cyber-crime: definition, hacking, eavesdropping,</li> </ul>	<p>between variables.</p> <p>*Apply the formula of Karl Pearson's coefficient and rank correlation and interpret the numeric value of the relationship.</p> <p><b>Activity 1:</b> Students will collect paired data (e.g., hours of study vs marks of classmates, temperature vs ice cream sales). They would organize the data in tabular form.</p> <p><b>Activity2:</b> Students discuss whether the relationship is positive, negative, or zero and justify their reasoning with</p>	<p>Identify perceptual principles and illusions</p> <p>Relate perception errors (illusions) to real-life experiences</p> <p>Apply strategies to improve attention and observation skills</p> <p><b>Activity:</b> Students will be shown visual illusions and incomplete figures and asked to: Interpret what they see Identify differences in perception among classmates. Students identify: Type of perceptual principle (figure-ground, closure, etc.) Why different people perceive the same image differently Role of past experience and expectations.</p>	<ul style="list-style-type: none"> <li>• Classify different types of personality and their relationship with sports performance.</li> <li>• Recognise the concept of motivation and identify various types of motivation.</li> <li>• Identify various reasons to exercise, its associated benefits and strategies to promote exercise adherence.</li> <li>• Differentiate between different types of aggression in sports.</li> </ul>
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	<p>childhood experiences.  <b>Topic: The Adventure</b>  <b>Sub-topics:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the author Jayant Narlikar and background of the story</li> <li>• Plot and concept of alternate history</li> <li>• Character sketch – Professor Gaitonde and Rajendra Deshpande</li> <li>• Theme of reality, history, and scientific imagination</li> <li>• Historical references and their significance</li> <li>• Narrative style and relevance of the story in contemporary society</li> </ul> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Analyse the</li> </ul>	<p><b>Learning Outcomes</b></p> <p>*Differentiate between SHM and periodic motion.</p> <p><b>Activity 1:</b> To determine the coefficient of viscosity of a viscous liquid by plotting a graph between terminal velocity and <math>(radius)^2</math></p> <p><b>Activity 2-Simple Pendulum Motion</b></p> <p>Suspend a small bob using a string and allow it to oscillate periodically. Students observe periodic motion and identify time period and amplitude.</p> <p><b>Values:</b></p> <p>Resilience and Adaptability</p>	<p>centre of the ellipse  *define eccentricity  *define/find the coordinates of foci, vertices, lengths of major axis, and minor axis, eccentricity and length of latus rectum of the given ellipse  *define a hyperbola and recognize/find the standard equations of a hyperbola  *define/find the coordinates of foci, vertices, eccentricity and length of latus rectum of the given hyperbola.  <b>Activity 1</b></p>	<p><b>bond length and bond strength depends on the size of the hybrid orbitals. Draw condensed structures and bond line structures of organic molecules. Name aliphatic, aromatic and polyfunctional compounds as per IUPAC nomenclature. Explain the types of structural and stereo isomerism and draw the structures of the isomers for a given molecular formula. Differentiate between homolytic and heterolytic</b></p>	<p><b>Learning Outcomes</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>-justify that terrestrial animals are generally either ureotelic or uricotelic but not ammonotelic.</li> <li>-name the parts of human excretory system</li> <li>-draw labelled diagram of human excretory system</li> <li>-explain the structure of kidney and nephron with the help of diagrams</li> <li>-describe the process of urine formation</li> <li>-state the function of proximal convoluted tubule, Henle's</li> </ul>	<p>phishing and fraud emails, ransomware, preventing cyber crime</p> <ul style="list-style-type: none"> <li>• Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.</li> <li>• Safely accessing web sites: malware, viruses, trojans, adware</li> <li>• E-waste management: proper disposal of used electronic gadgets</li> <li>• Indian Information Technology Act (IT Act)</li> <li>• Technology &amp; Society: Gender and disability issues while teaching and using computers</li> </ul> <p><i>Flipped Learning:</i></p>	<p>examples.</p> <p><b>Index Numbers</b></p> <p>Meaning of index numbers, Types: Price index, Quantity index, Simple Index Numbers, Weighted Index Numbers, Consumer Price Index, Wholesale Price Index, IIP, Uses in economics (inflation, cost of living, policy decisions)</p> <p><b>Learning Outcomes:</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>*Explain practical uses in economic analysis.</li> <li>*Distinguish between different</li> </ul>	<p><b>Life Skills:</b> Improving focus and concentration  Mindfulness and awareness of surroundings  Managing distractions effectively  Observation and analytical thinking.</p> <p><b>Values:</b></p> <p>Openness to different perspectives  Respect for individual differences in perception  Awareness of biases in interpreting situations</p>	<ul style="list-style-type: none"> <li>• Explain various psychological attributes in sports.</li> </ul>
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	<p>character of Professor Gaitonde citing at least 3 textual evidences.</p> <ul style="list-style-type: none"> <li>• Explain the concept of alternate history in a structured paragraph.</li> <li>• Identify 4 literary devices/narrative techniques with examples from the story.</li> <li>• Evaluate the themes of history, reality, and scientific curiosity in a 200-word analytical paragraph.</li> </ul> <p><b>Activity:</b> Art Integrated Activity: Create a parallel timeline or visual chart comparing the historical events in the real world and the alternate world shown in</p>		<p>Construct a Parabola.</p> <p><b>Activity 2</b> To construct an ellipse when two fixed points are given.</p> <p><b>Life Skills –</b> Interpretation, Drawing Skill</p> <p><b>Health and Wellness –</b> Responsibility</p> <p><b>General Awareness –</b> Application in Real Life</p> <p><b>Topic:</b> Permutation and Combination</p> <p><b>Subtopics:</b></p> <ul style="list-style-type: none"> <li>* Introduction</li> <li>*Fundamental Principle of counting</li> <li>*Permutation when all the</li> </ul>	<p><b>fission. Draw and explain the structure of reaction intermediates &amp; explain their stability orders. Define and differentiate between Inductive effect and Electromeric effect.</b></p> <p><b>Activity 1</b> <b>Lab Activity (Qualitative analysis)</b> <b>To determine an anion and a cation present in the given unknown salt sample (Illrd group cations)</b></p> <p><b>Activity 2</b> <b>Case Study on electron displacement effects</b></p> <p><b>Life Skills:</b></p>	<p>loop, distal convoluted tubule and collecting duct</p> <ul style="list-style-type: none"> <li>-explain the counter current mechanism</li> <li>-describe the regulation of kidney function</li> <li>-state the role of lungs, liver and skin in the elimination of wastes from the body</li> <li>-mention any two disorders of the excretory system</li> </ul> <p><b>Topic:</b> Locomotion and Movement</p> <p><b>Subtopics:</b> -Types of movement and</p>	<p>Mind Map NCERT Chapters extract YouTube videos</p> <p><b>Learning Outcomes</b> Each child will be able to:</p> <ul style="list-style-type: none"> <li>=&gt;declare and make programs on-</li> <li>-Dictionary</li> <li>-Dictionary search</li> <li>- append</li> <li>-delete</li> <li>-Traversal</li> <li>-copy</li> </ul> <p>=&gt; define terms related to .... Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying</p> <p>=&gt;Appreciate Use social networks: spread of rumors, and common social networking sites</p>	<p>types of index numbers.</p> <ul style="list-style-type: none"> <li>*Compute index numbers using simple methods.</li> <li>*Calculate and compare weighted index numbers using different methods.</li> <li>*Construct CPI using Family Budget method and Aggregate Expenditure Method.</li> </ul> <p><b>Activity 1:</b> Students will analyze how price changes affect cost of living and discuss real-life implications</p> <p><b>Activity 2:</b> Students will collect prices of common items (milk, vegetables, stationery) for two different periods</p>		
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	<p>the story.  <b>Life Skills:</b>          Critical thinking, analytical reasoning, problem-solving, imagination, and scientific temper.  <b>Topic: Birth</b>  <b>Sub-topics:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the author A. J. Cronin and background of the story</li> <li>• Character sketch – Andrew Manson, Joe Morgan and Susan Morgan</li> <li>• Theme of dedication, responsibility and humanity</li> <li>• Medical ethics and challenges faced by doctors</li> <li>• Emotional conflict and resolution in the story</li> <li>• Relevance of the lesson in contemporary</li> </ul>		<p>objects are/are not distinct.          *Combination</p> <p>* Factorial notation.</p> <p>*Explain the number of permutations of n objects, where <math>p_1</math> objects are of one kind, <math>p_2</math> objects are of second kind ..... <math>p_k</math> are of the kind and rest if any are different is given.</p> <p><b>Each child will be able to:</b></p> <ul style="list-style-type: none"> <li>*state the fundamental principle of Addition / Multiplication</li> </ul> <p>* factorial notation</p>	<p><b>Problem solving and Critical thinking</b></p>	<p>Muscle          -Structure of contractile proteins          Mechanism of muscle contraction          -Skeletal system          -Joints          -Disorders of muscular and skeletal system</p> <p><b>Learning Outcomes</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>-mention the structure and function of skeletal muscle</li> <li>-explain the structure of contractile proteins</li> <li>-describe the sliding filament theory of muscle contraction</li> <li>-explain the structure and function of the human skeletal system,</li> </ul>	<p>(Twitter, LinkedIn, and Facebook) and specific usage rules.          =&gt;define eavesdropping, phishing and identity verification.          =&gt;Learn Safe way to communicate with data:          =&gt;learn about cyber laws and cyber crimes          =&gt;Learn about terms plagiarism, eavesdropping, phishing, identity verification          =&gt;Identify ways of E waste Management          =&gt;Identify solutions to problem of learning computers in female students          Gender sensitivity:          Dispelling superstitions.          Activity          Make a comic strip/</p>	<p>(current vs past/estimated) and tabulate the data.          Students use collected data to calculate index numbers using simple aggregative and price relative methods.</p>		
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	<p>society</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>Analyse the character of Andrew Manson citing at least 3 textual evidences.</li> <li>Describe the sequence of events leading to the successful birth in a structured paragraph.</li> <li>Identify 4 literary devices/narrative techniques with examples from the story.</li> <li>Evaluate the themes of duty, compassion and perseverance in a 200-word analytical paragraph.</li> </ul> <p><b>Activity 1:</b> Role Play: Enact the scene where Andrew Manson struggles to save</p>		<p>*define permutation.</p> <p>*find the number of permutations of n different objects with or without repetition.</p> <p>*define a combination.</p> <p>*differentiate btw Permutation and Combination</p> <p><b>Activity 1: Fundamental Principle Activity</b> Students list possible outcomes (e.g., outfits, meal combinations) and verify multiplication principle.</p>		<p>including types of bones and joints.</p> <p>-state any two common skeletal and muscular disorders.</p> <p><b>Activity 1</b> Test for presence of urea, sugar, albumin and bile salts in urine.</p> <p><b>Activity 2</b> Study of human skeleton and different types of joints with the help of virtual images/models only.</p> <p><b>Health and Wellness:</b> Healthy Lifestyle</p>	<p>video on cyber safety and security</p>			
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	<p>the newborn baby and interacts with the Morgan family.</p> <p><b>Activity 2:</b> Art Integrated Activity: Create a storyboard, poster, or diary entry depicting Andrew Manson's emotional journey and professional commitment.</p> <p><b>Life Skills:</b> decision-making, problem-solving, responsibility, and presence of mind in difficult situations.</p>		<p><b>Activity 2: Arrangement Activity (Permutation)</b> Students arrange objects (letters, numbers) and count possible arrangements.</p> <p><b>Life Skills –</b> Logical Reasoning, Problem Solving, Critical Thinking, <b>Gender Sensitivity –</b> Gender Equality</p>						
<p>December</p> <p><b>Topic</b></p>	<p><b>Topic: Silk Road</b> <b>Sub-topics:</b> • Introduction to the author Nick Middleton and</p>	<p><b>Topic- Oscillation and Waves</b> <b>Subtopics-</b> *Energy in simple</p>	<p><b>Topic:</b> Probability <b>Sub Topics:</b> 1. Introduction 2. Random Experiments</p>	<p><b>Topic: Organic Chemistry : Some Basic Principles and Techniques</b></p>	<p><b>Topic:</b> Neural Control and Coordination <b>Subtopics:</b> -Human neural</p>	<p>CLASS XII Unit III: Database Management Database concepts: introduction to</p>	<p><b>Forms of Market and Price Determination</b> Subtopics: Meaning of market,</p>	<p><b>Topic: Thinking</b> <b>Subtopic:</b> Nature of thinking and cognitive processes</p>	<p><b>Topic</b> Training in Sports <b>Subtopic</b></p>

<p><b>Subtopic</b></p> <p><b>Learning Outcome</b></p> <p><b>Activity 1</b></p> <p><b>Activity 2</b></p> <p><b>Life Skill</b></p> <p><b>Value</b></p> <p><b>Gender</b></p> <p><b>Health and Wellness</b></p>	<p>background of the travelogue</p> <ul style="list-style-type: none"> <li>Description of the journey through the Himalayas and Tibet</li> <li>Character sketch – Nick Middleton and Norbu</li> <li>Cultural experiences and lifestyle of the people of Tibet</li> <li>Theme of adventure, perseverance and cultural exploration</li> <li>Narrative style and relevance of travel writing in contemporary society</li> </ul> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>Analyse the narrator's experiences during the journey citing at least 3 textual evidences.</li> </ul>	<p>harmonic motion, derivation of expression for time period of simple pendulum, mass spring system</p> <ul style="list-style-type: none"> <li>*Resonance</li> <li>*Displacement relation for a progressive wave</li> <li>*Super position of waves, stationary wave in string and organ pipe</li> <li>fundamental mode and harmonics</li> <li>*Related conceptual and numerical questions</li> </ul> <p><b>Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>*Mathematically derive equations for SHM energy in SHM, apply the same to oscillation of spring, pendulum and</li> </ul>	<p>3. Event-simple and compound events</p> <p>4. Algebra of events</p> <p>5. Mutually exclusive, exhaustive events</p> <p><b>Learning Outcomes:</b></p> <p><b>Each child will be able to:</b></p> <ul style="list-style-type: none"> <li>*recall the concept of probability</li> <li>*recall the definition of random experiment, sample space</li> <li>*write the sample space of a Random experiment</li> <li>*list the various kinds of events : mutually exclusive, exhaustive</li> </ul>	<p><b>(contd.) Sub-Topics:</b></p> <p><b>Resonance effect and hyperconjugation</b></p> <p><b>Topic: Hydrocarbons Sub-Topics:</b></p> <p><b>Classification of hydrocarbons-Saturated and unsaturated. Isomerism Alkanes, Alkenes and Alkynes (preparation, physical &amp; chemical properties) Name reactions – Wurtz reaction, Decarboxylation, Kolbe reaction. Conformations-Sawhorse and Newmann projection</b></p>	<p>system</p> <ul style="list-style-type: none"> <li>-Neuron</li> <li>-Generation and conduction of nerve impulse</li> <li>-Transmission of impulse</li> <li>-Central neural system</li> </ul> <p><b>Learning Outcomes</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>-explain nervous system in humans.</li> <li>-describe the structure and types of neurons</li> <li>-explain the generation, conduction and transmission of nerve impulse</li> <li>-differentiate between CNS and PNS</li> <li>-name the three major parts of brain and explain their functions</li> </ul>	<p>database concepts and its need</p> <p>Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)</p> <p>Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and</p>	<p>features that distinguish one form of market from another, perfect competition and its features, market equilibrium and related concepts, shifts in demand curve and supply curve(simultaneous shifts), floor price and control price.</p> <p><b>Learning Outcomes:</b></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>*Define market and state its features</li> <li>*Explain the features of perfect competition</li> <li>*Determine equilibrium price and market equilibrium.</li> <li>*Analyse the effect of shift in demand and supply curve.</li> </ul>	<p>Building blocks of thought: concepts, mental images, symbols</p> <p>Types of thinking: convergent, divergent, creative</p> <p>Problem solving: steps and strategies</p> <p>Barriers to effective thinking (mental set, functional fixedness)</p> <p>Decision making and reasoning</p> <p><b>Learning Outcomes:</b></p> <p>Explain the nature of thinking using everyday examples</p> <p>Differentiate between types of thinking (convergent vs divergent)</p> <p>Analyse the process of problem solving</p> <p>Identify barriers that hinder effective</p>	<p>1. Concept of Talent Identification and Talent Development in Sports.</p> <p>2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle.</p> <p>3. Types &amp; Methods to Develop – Strength, Endurance, and Speed.</p> <p>4. Types &amp; Methods to Develop – Flexibility and Coordinative Ability.</p> <p>5. Circuit Training - Introduction &amp; its importance.</p> <p><b>Learning Outcome</b></p>
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	<ul style="list-style-type: none"> <li>Describe the challenges faced during the journey in a structured paragraph.</li> <li>Identify 4 literary devices/descriptive techniques with examples from the lesson.</li> <li>Evaluate the themes of adventure, resilience and cultural understanding in a 200-word analytical paragraph.</li> </ul> <p><b>Activity 1:</b> Role Play: Enact a conversation between the narrator and Norbu during their journey to Kailash.</p> <p><b>Activity 2:</b> Art Integrated Activity: Create a travel brochure, route map, or</p>	<p>sonometer.</p> <p>*Differentiate between mechanical waves and electromagnetic waves, progressive and stationary waves.</p> <p>*Write an equation for SHM and solve numerical problems.</p> <p>*Explain the phenomenon of stationary waves in string, resonance tube as an application of the principle of superposition of waves and its uses.</p> <p>*Diagrammatically represent the harmonics produced in a</p>	<p>events</p> <p>*prove events to be mutually Exclusive or exhaustive</p> <p>*state and apply the formulae for probability of an event</p> <p>*state the Addition formulae of probability.</p> <p><b>Activity 1: Coin Toss Experiment (NCERT Lab Manual)</b> Students write sample space for tossing a coin once, twice, thrice, and four times.</p> <p><b>Activity 2: Card Selection Activity</b> Students find a number of ways to select</p>	<p><b>formulae of Ethane Aromatic hydrocarbons (preparation, physical &amp; chemical properties with mechanisms, structure and uses of benzene)</b></p> <p><b>Learning Outcomes:</b></p> <p><b>Explain hyperconjugation and resonance effects and draw resonating structures of the given molecule</b></p> <p><b>Solve reasoning questions on the above effects.</b></p> <p><b>Discuss classification and IUPAC</b></p>	<p><b>Topic:</b> Chemical Coordination and Integration</p> <p><b>Subtopics:</b> -Hypothalamus -The Pituitary Gland -The Pineal and Thyroid gland -Thymus and adrenal gland -Pancreas -Testis and ovary -Hormones of heart, kidney and gastrointestinal tract -Mechanism of hormone action</p> <p><b>Learning Outcomes</b> Each student will be able to: -explain the role of the endocrine system in maintaining homeostasis. -describe the structure, location, and functions of</p>	<p>remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join Flipped Learning Mind Map SQL Notes NCERT Class XII chapters extract</p> <p><b>Learning Outcomes</b></p>	<p>*Define Price ceiling and Support Price</p> <p><b>Activity1: Market Sorting Activity:</b> Students are given examples of industries (e.g., agriculture, telecom, fast food) and classify them into different market forms based on characteristics.</p> <p><b>Activity 2:</b> Students discuss why real-world markets rarely fit perfectly into one category and share examples.</p>	<p>thinking</p> <p>Apply strategies to improve thinking and decision-making</p> <p>Evaluate creative solutions in real-life situations</p> <p><b>Activity:</b> Students will be given logic puzzles / riddles (e.g., matchstick puzzles, lateral thinking problems) and asked to solve them within a time limit.</p> <p><b>Students identify:</b> Steps they used (understanding, planning, executing, evaluating) Type of thinking involved: Convergent (one correct answer)</p> <p><b>Life Skills:</b> Critical thinking and reasoning</p>	<p>The students will be able to:</p> <ul style="list-style-type: none"> <li>Understand the concept of talent identification and methods used for talent development in sports.</li> <li>Understand sports training and the different cycle used in the Training process.</li> <li>Understand different types &amp; methods to develop - strength, endurance, and speed in sports training</li> <li>Understand different types &amp; methods to develop – flexibility and</li> </ul>
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	<p>visual diary depicting the journey along the Silk Road.</p> <p><b>Life Skills:</b> Adaptability, resilience, cultural sensitivity, observation skills, and appreciation of diversity.</p>	<p>stretched string and in organ pipes. *Apply the concepts and formulae logically to solve related numerical</p> <p><b>CLASS 12</b> <b>Topic:</b> <b>Wave Optics</b></p> <p><b>Subtopics-</b> *Wave front and Huygen's principle</p> <p><b>Learning Outcomes-</b> *draw the reflecting and refracting wavefronts using Huygen's principle.</p> <p><b>Activity 1-</b> <b>Pendulum</b></p>	<p>3 cards from 5 cards.</p> <p><b>Life Skills –</b> Logical Reasoning, Decision Making, Critical Thinking, Problem Solving</p> <p><b>Health and Wellness –</b> Mental Discipline</p> <p><b>Topic:</b> Binomial Theorem</p> <p><b>Sub Topics</b> *expansion of the binomial expression <math>(a+b)^n</math> using binomial theorem for positive integral indices. * pascal's triangle</p> <p><b>Learning Outcomes:</b></p>	<p><b>nomenclature of hydrocarbons. Draw structures of isomers for a given molecular formula. Explain the preparation methods, properties of ethane, ethene, ethyne and benzene and their respective reactions. Draw the Sawhorse and Newmann projections for ethane and discuss their stabilities. Comment on the name reactions (Wurtz, Kolbe and Decarboxylation, reaction). Explain the hybridization in the structure of benzene.</b></p>	<p>major endocrine glands (pituitary, thyroid, adrenal, pancreas, gonads, etc.). -explain any two disorders related to hormonal imbalance (e.g., diabetes mellitus, goiter, dwarfism, gigantism). - name the hormones of heart, kidney and gastrointestinal tract -describe the mechanism of hormone action.</p> <p><b>Activity 1</b> Students will be given situations like loss of memory, loss of balance and irregular heartbeat. They will identify parts of the brain that might be affected.</p> <p><b>Activity 2</b></p>	<p>Each child will be able to- =&gt;Define terms- primary key, candidate key, foreign key, alternate key DDL DML Joins Cardinality Arity RDBMS domain</p> <p>Each child will be able to =&gt;Create SQL databases and tables =&gt;insert records, update/delete records =&gt;Execute SQL commands: create, insert , select, project, and join;</p> <p>Value – Respect Activity</p>		<p>Creative problem solving</p> <p>Decision making</p> <p>Adaptability and flexibility in thinking</p> <p><b>Values:</b></p> <p>Open-mindedness</p> <p>Respect for diverse ideas</p> <p>Persistence in solving problems</p> <p>Confidence in one's thinking ability</p>	<p>coordinative ability.</p> <p>• Understand Circuit training and its importance.</p>
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		<p><b>Energy</b></p> <p><b>Observation:</b> Displace a pendulum bob and release it freely. Students observe continuous conversion of potential energy into kinetic energy during oscillation.</p> <p><b>Activity 2:</b> <b>Water Ripple Wavefront</b> <b>Activity:</b> Create ripples in a tray of water using a small vibrating object or by dropping a pebble. Students observe circular wavefronts spreading uniformly from the source.</p>	<p><b>Each child will be able to:</b> *expand the binomial expression <math>(a+b)^n</math> using binomial theorem for positive integral indices. *use pascal's triangle in writing the coefficients in the expansion.</p> <p><b>Activity : Pascal's Triangle Construction</b> Students build Pascal's Triangle and relate rows to binomial expansions.</p> <p><b>Life Skills –</b> Logical Reasoning, Pattern Recognition, Critical</p>	<p><b>Explain the mechanism of electrophilic substitution reactions of benzene</b></p> <p><b>Activity 1</b> <b>Hands on Activity on Conformations of ethane using ball and stick models</b></p> <p><b>Activity 2</b> To determine an anion and a cation present in the given unknown salt sample (IV and Vth group cations)</p> <p><b>Health and Wellness:</b> Environmental Wellness</p>	<p>Students will create an amusement park based on the body systems and organs within the human body</p> <p><b>Values:</b> Respect for Life and Health</p>	Project Work			
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		<p><b>Life Skill:</b> Analytical Reasoning and Pattern Recognition</p>	<p>Thinking, Problem Solving</p> <p><b>Values –</b> Accuracy, Systematic Thinking, Consistency</p> <p><b>Topic:</b> Matrices</p> <p><b>Sub Topics:</b> 1. Matrix-Introduction 2. Types of matrices 3. Operations on matrices 4. Transpose of a matrix 5. Symmetric and Skew symmetric matrices.</p> <p><b>Learning Outcomes:</b></p> <p><b>Each child will be able to:</b></p>						
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			<ul style="list-style-type: none"><li>*identify a <math>ij</math> element of a matrix</li><li>*apply the basic operations of +, -</li><li>*define various types of matrices</li><li>*solve the problem of equality of matrices.</li><li>*define transpose of a matrix</li><li>*define symmetric and skew symmetric matrices.</li><li>*find the transpose of a matrix</li><li>*differentiate between symmetric and skew symmetric matrices.</li><li>*define the inverse of a matrix.</li></ul>						
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			<p><b>Activity :</b> <b>Classification Activity</b> Students identify different types of matrices from given examples.</p> <p><b>Life Skills –</b> Logical Reasoning, Analytical Thinking, Problem Solving, Critical Thinking</p> <p><b>Values –</b> Precision, Consistency, Logical Approach</p>						
<p>January</p> <p><b>Topic</b></p> <p><b>Subtopic</b></p>	<p><b>Topic:</b> <i>The Tale of the Melon City</i> <b>Sub-topics:</b></p> <ul style="list-style-type: none"> <li>Introduction to the poet Vikram Seth and background of</li> </ul>	<p><b>CLASS 12</b> <b>Topic:</b> <b>Wave Optics</b></p> <p><b>Subtopics-</b> *Wave front and Huygen's</p>	<p><b>Topic:</b> Determinants</p> <p><b>Sub Topics:</b> 1. Determinant-Introduction</p>	<p><b>Topic:</b> <b>Hydrocarbons</b> <b>Sub-Topics:</b></p> <p><b>Directive influence of substituents in mono</b></p>	<p><b>Topic:</b> Reproductive Health</p> <p><b>Subtopics:</b> -Reproductive health-problems</p>	<p>PROJECT WORK <b>REVISION</b> <b>Learning Outcomes</b></p> <p>Each child will be able to clarify their</p>	<p><b>India on the eve of independence</b> Subtopics: Features of Indian economy, problems of faced by Indian</p>	<p><b>REVISION AND PRACTICALS</b></p>	<p><b>Revision</b></p>

<p><b>Learning Outcome</b></p> <p><b>Activity 1</b></p> <p><b>Activity 2</b></p> <p><b>Life Skill</b></p> <p><b>Value</b></p> <p><b>Gender</b></p> <p><b>Health and Wellness</b></p>	<p>the poem</p> <ul style="list-style-type: none"> <li>• Summary and sequence of events in the poem</li> <li>• Satire on justice and governance</li> <li>• Theme of absurdity, corruption and irresponsible leadership</li> <li>• Humour, irony and poetic devices used in the poem</li> <li>• Relevance of the poem in contemporary society</li> </ul> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Analyse the satirical elements in the poem citing at least 3 textual evidences.</li> <li>• Explain the sequence of absurd events in a structured paragraph.</li> </ul>	<p>principle (contd)</p> <ul style="list-style-type: none"> <li>* Interference, Young's double slit experiment and expression for fringe width (No derivation final</li> <li>-Related numericals</li> </ul> <p><b>Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>*differentiate between coherent and incoherent sources.</li> <li>*infer the conditions for sustained interference.</li> <li>*draw the intensity versus path difference/phase difference graph for Young's Double Slit experiment.</li> <li>*mathematically derive equation for path difference and phase difference for</li> </ul>	<p>2. Area of triangle</p> <p>3. Adjoint and inverse of a matrix</p> <p>4. Applications of Determinants and matrices</p> <p><b>Learning Outcomes:</b></p> <p><b>Each child will be able to:</b></p> <ul style="list-style-type: none"> <li>*define the inverse of a matrix.</li> <li>*Perceive the concept of Determinants, minors, cofactors, adjoint and inverse.</li> <li>* find the area of triangle</li> <li>* solve the system of equations using matrices</li> </ul> <p><b>Activity 1:</b></p>	<p><b>substituted benzene compounds Carcinogenicity and toxicity. Interconversions</b></p> <p><b>Topic:</b></p> <p><b>Chemical Equilibrium Sub-Topics:</b></p> <p><b>Equilibrium in physical and chemical processes, nature and characteristics of equilibria.</b></p> <p><b>Law of mass action &amp; Law of chemical equilibrium Relation between <math>K_p</math> and <math>K_c</math>) <math>K_c</math> – characteristics, expression, units, Related numerical Types of</b></p>	<p>and strategies - Population explosion and birth control</p> <ul style="list-style-type: none"> <li>-Medical termination of pregnancy - Sexually transmitted diseases</li> <li>-Infertility</li> </ul> <p><b>Learning Outcomes</b></p> <p>Each student will be able to:</p> <ul style="list-style-type: none"> <li>-mention two problems that are taken care of by Reproductive and Child Health Care Programme</li> <li>-enumerate any three methods of birth control with one example of each</li> <li>-list any three characteristics of an ideal contraceptive</li> <li>-state two main types of sexually transmitted</li> </ul>	<p>doubts =&gt;in Python and CSO</p> <ul style="list-style-type: none"> <li>=&gt;recapitulate the important concepts, laws and rules.</li> <li>=&gt;apply the same to answer related questions.</li> <li>=&gt;apply the same to make project</li> <li>&gt;solve practice papers</li> </ul>	<p>economy, Indian agriculture, industrial growth, foreign trade, demography, occupational structure, human development, infrastructure, Impact of British rule in India, impact of Railways in India</p> <p>Learning Outcomes: Students will be able to:</p> <ul style="list-style-type: none"> <li>*Explain the nature of colonial economic policies.</li> <li>*Evaluate the impact of Zamindari system, systematic de-industrialisation, drain of wealth, commercialisation of agriculture.</li> <li>*Evaluate whether infrastructure development</li> </ul>		
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	<ul style="list-style-type: none"> <li>Identify 4 poetic devices with examples from the poem.</li> <li>Evaluate the themes of governance, justice and public responsibility in a 200-word analytical paragraph.</li> </ul> <p><b>Activity 1:</b> Role Play: Enact the court scene highlighting the humour and absurdity in the king's judgement.</p> <p><b>Activity 2:</b> Art Integrated Activity: Create a comic strip, caricature, or illustrated flowchart depicting the chain of blame in the poem.</p> <p><b>Life Skills:</b> Critical thinking, decision-making, awareness of</p>	<p>constructive and destructive interference -apply the concepts to solve numericals</p> <p><b>Activity 1- Interference Using Water Waves:</b> Generate two wave sources in a ripple tank and observe overlapping wave patterns. Students identify constructive and destructive interference regions.</p> <p><b>Activity 2- Double Slit Torch Activity:</b> Pass light from a laser pointer or torch through two narrow slits onto a screen. Observe alternate bright and dark bands</p>	<p><b>Area of Triangle Activity</b> Students calculate area using coordinates and determinant formula.</p> <p><b>Activity 2 : Application-Based Problem Solving</b> Students solve systems of linear equations using matrices</p> <p><b>Life Skills –</b> Decision Making, Logical Reasoning, Problem Solving, Analytical Thinking</p> <p><b>Gender Sensitivity –</b> Equality in</p>	<p><b>equilibria- Homogeneous and heterogeneous equilibria Factors affecting Kc (Le Chatliers principle &amp; its applications. Ionic equilibrium in solutions- Strong &amp; weak electrolytes, ionic equilibria, ionization of weak electrolytes (Ostwald's Dilution Law) Acid base concepts. Strength of acids &amp; bases- ionization constants. Ionic product of water Kw. pH and pOH- concept and numerical. Solubility</b></p>	<p>diseases giving one example of each -mention any three causes of infertility -suggest and explain three Assisted Reproductive Technologies to assist an infertile couple</p> <p><b>Activity 1</b> Students will design a poster to create awareness on "Reproductive Health"</p> <p><b>Activity 2</b> Students will be given different case-based situations related to infertility. They will analyze each scenario and identify the most appropriate Assisted Reproductive Technology (ART) method (such as</p>		<p>benefited India. *Describe demographic features of pre-independence India</p> <p><b>Activity 1:</b> Students will be given data, they will create a pie chart showing occupational distribution.</p> <p><b>Activity 2:</b> Students will create a flowchart showing how British policies led to economic decline (e.g., high land revenue → farmer distress → low productivity).</p>		
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	<p>civic responsibility, and analytical reasoning.</p>	<p>demonstrating interference of light.</p> <p><b>Health and wellness</b> - Protecting Eyes from Harmful Light Exposure</p>	<p>Decision Making</p>	<p><b>equilibria of sparingly soluble salts (K<sub>sp</sub>) brief idea &amp; common ion effect, Applications of solubility product K<sub>sp</sub> and common ion effect. Buffer solutions &amp; buffer action.</b></p> <p><b>Learning Outcomes:</b></p> <p>Explain Huckel's rule for aromaticity. Predict the directive influence of substituents in monosubstituted benzene. Explain the dynamic nature of physical and chemical equilibrium. Describe the characteristics of chemical</p>	<p>IVF, IUI, surrogacy, etc.) to address the problem.</p> <p><b>Gender Sensitivity</b> Breaking Myths and Stereotypes</p>				
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equilibria.  
State and explain law of mass action and chemical equilibrium.  
Write expression for equilibrium constant.  
Derive the relation between  $K_p$  and  $K_c$ ,  $K_c$  and  $Q$ .  
Explain the characteristics, expression, units, applications of  $K$ .  
Discuss the types of equilibria and write expressions for  $K_c$ .  
State Le-chatlier's Principle and solve problems related to it.  
Discuss concept of ionic equilibrium in



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**solution-Strong and weak electrolytes. Derive Ostwald's Law. Distinguish between strong and weak acids and bases. Discuss the term ionic product of water & solve numerical based on it. Discuss salt hydrolysis. Justify solubility equilibria of sparingly soluble salts and calculate solubility product constant & its applications. Explain common ion effect & buffers. Apply common ion effect in qualitative analysis.**



Value									
Gender									
Health and Wellness									



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