

JAIN VIDYA MANDIR SR. SEC. SCHOOL , SONIPAT
ANNUAL CALANDER-(2023)
CLASS-12

12TH ENGLISH (301)

SR. No.	Month		Topic	Art Integrated Projects	Methodology	Teaching/ Instructional Aids
		1 st Week	Ch-1. The Last Lesson	<p>1. Group Discussion on 'Political enslavement is a curse on any Nation as it deprives it of its identity'.</p> <p>2. Find out about the following (You may go to the internet, interview people, consult reference books or visit a library.)</p> <p>(a) Linguistic human rights</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based Lectures,</p> <p>Classroom discussion,</p> <p>Demonstration , Explanation,</p> <p>Debate,</p> <p>Problem solving,</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>

	APRIL			<p>India.</p> <p>3. Tabulation chart of different languages spoken all over the world.</p> <p>4. Prepare a presentation on the characteristics of an ideal teacher.</p>		
		2 nd Week	Ch-2. The Lost Spring	<p>1. Being the head boy/girl of your school, write a notice informing students about the 'Anti-Child-Labour' day going to be observed in your school.</p> <p>2. Prepare an appealing poster on 'Child Labour'.</p> <p>3. Take an interview of a young girl or a boy working at</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>

				<p>somebody's house , dhaba, factory or any shop. Ask questions like: His name, age, family, hometown,salary, dream,.....</p> <p>What are some of the problems working children may experience?</p> <p>4. Write an article on "Dreams of the poor and their reality.</p>	<p>Debate</p> <p>Problem Solving</p>	
		3 rd Week	<p>Writing Skills- Short Composition Notice</p> <p>Poster</p>			

		4 th week	Advertisement	<p>1. Prepare a collage on different types of advertisement.</p> <p>2. Advertise any product/ idea.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>
			P-1. My Mother at Sixty Six	<p>1. Sing a song or recite a poem showing your love and gratitude towards your mother.</p> <p>2. Draw a portrait of your mother.</p>	<p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	
	MAY	1 st Week	Supplementary Ch-1 The Third Level	<p>1. Worksheets on Listening task, Crisis Management, Creative writing to unfold logical</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster</p>

				<p>thinking skills.</p> <p>2. Jot down your medium of escape from real world.(Your pastime)</p> <p>3. Prepare a collage on postal stamps.</p>	<p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	<p>smart class, green board, mind map (self-made), overhead Projector etc.</p>
		2 nd Week	P-3. Keeping Quiet	<p>1. Prepare a model of a clock representing different motivation words on each number.</p> <p>2. Collect the details of cause of war.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>

					Demonstration Explanation Debate Problem Solving	
		3 rd Week	Writing Skills- Short Composition (Formal Invitation & Reply) Supplementary Ch-2. The Tiger King	1. Framing and preparing invitation cards for different purposes: a) Annual Day Celebration invitation card. b) Prepare an information brochure highlighting the main programs of your function. 1. Prepare a Power Point Presentation on Tiger Reserves of India.	Brainstorming Demonstration Reading Explanation Enquiry based Lectures Classroom discussion Demonstration Explanation Debate Problem Solving	Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc. Video or PPT on Save Tiger

				<p>2. Debate : Job Security vs Work Ethics</p> <p>3. Role play on the story.</p> <p>4. Prepare comic strip on the major events.</p>		
		4 th Week	Ch-3. Deep Water	<p>1. Doing well in any involves a great deal of struggle. Most of us are very nervous to begin with until gradually we overcome our fears and perform well. Write an essay of about five paragraphs recounting such an experience. Try to recollect minute details of what caused the fear, your feelings, the encouragement</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>

			<p>you got from others or the criticism.</p> <p>2. Are there any water sports in India? Find out about the areas or places which are known for water sports and prepare catchy handouts for them.</p> <p>3. Prepare a scrapbook on famous swimmers of the world.</p> <p>4. Make a model of Swimming Pool.</p> <p>Supplementary</p> <p>Ch-3 Journey to the End of The Earth</p> <p>1. Prepare a globe using newspapers.</p> <p>2. Speech: Humans are the cause of the destruction of the Earth.</p>	<p>Problem Solving</p>	
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				3. Draw a scene of Antarctica Continent.		
	JUNE	Summer Break				
	JULY	1 st Week	Long Composition Letters	Letters: 1. Public Issues 2. Problem/ Inconvenience 3. Job application+ Resume.	Brainstorming Demonstration Reading Explanation Enquiry based Lectures Classroom discussion Demonstration Explanation Debate Problem Solving	Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.
		2 nd Week	Writing Skills- Short			

			Composition (Informal Invitation & Reply)			
		3 rd Week	Ch-4 The Rattrap	<p>1. Prepare Rattrap using waste material.</p> <p>2. Prepare a comparative analysis on the behaviour of the three characters of the story who deal with the Rattrap seller.</p> <p>3. Write dialogues related to this chapter.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>
		4 th Week	Ch-5. Indigo	<p>1. Prepare scrapbook on Gandhi's</p>	<p>Brainstorming</p> <p>Demonstration</p>	<p>Flamingo Reader, Vistas, English</p>

				<p>contribution in Indian Freedom Movement.</p> <p>2. Flow chart of the characteristics of a team leader.</p> <p>3. Model of a village.</p> <p>4. Present your arguments on an issue that has provoked controversy in which the lives of the poor have been affected. Also suggest suitable settlement.</p>	<p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	<p>practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>
	AUGUST	1 st Week	P-4. A Thing of Beauty	<p>1. PowerPoint Presentation on the beauty of Nature.</p> <p>2. Recite the poem and make a video.</p> <p>3. Draw a beautiful</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board,</p>

				landscape.	<p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	mind map (self-made), overhead Projector etc.
		2 nd Week	Supplementary Ch-4 The Enemy	<p>1. Critically analyse the importance of war.</p> <p>2. Group discussion on importance of our helpers.</p> <p>3. Design a new uniform for Army.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p> <p>Documentary on the</p>

					Explanation Debate Problem Solving	services of Doctors and Nurses during War times.
		3 rd Week	Ch-6. Poets and Pancakes	<p>1. Collect about twenty cartoons from newspapers and magazines in any language to discuss how important people or events have been satirized. Comment on the interplay of the words and the pictures used.</p> <p>2. Present Mono Acting related to the characters mentioned in the chapter.</p> <p>3. Write an article on the role of Indian Cinema.</p>	Brainstorming Demonstration Reading Explanation Enquiry based Lectures Classroom discussion Demonstration Explanation Debate Problem Solving	Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.

				4. Present a review on any comedy film/book.		
		4 th Week	Ch-6. Poets and Pancakes			
	SEPTEMBER	1 st Week	Writing Skills- Speech Debate Article	<p>1. Write a speech on ' Virtual Classroom vs Real Classroom.</p> <p>2. Make a collage of different famous speeches.</p> <p>3. Debate: Electronic Media is more powerful than print media.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	
		2 nd Week				

		3 rd Week	Revision + Half Yearly Examination			
		4 th Week				
	OCTOBER	1 st Week	P-5. A Roadside Stand	<p>1. Make a list of the items which are offered at the roadside stands.</p> <p>2. Declamation on Current Topics</p> <p>3. Prepare flash cards presenting different figures of speech.</p>	Brainstorming Demonstration Reading Explanation Enquiry based Lectures Classroom discussion Demonstration Explanation Debate Problem Solving	Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.
		2 nd Week	Ch-7. The Interview	<p>1. Interview a person whom you admire either in school or your neighbourhood</p>	Brainstorming Demonstration Reading	Flamingo Reader, Vistas, English practice, test materials,

				<p>and record it in writing/video.</p> <p>2. Deliver important information from literature, history, science, or math in the form of a newscast. Newscast can be prerecorded or presented live.</p>	<p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	<p>chalk-duster</p> <p>smart class,</p> <p>green board,</p> <p>mind map</p> <p>(self-made),</p> <p>overhead</p> <p>Projector</p> <p>etc.</p>
		3 rd Week	Supplementary Ch-6. On the Face of It	<p>1. Make a collage of any powerful physically challenged person who created history.</p> <p>2. Role play.</p> <p>3. Create vocabulary merit badges where the term is defined in</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p>	<p>Flamingo</p> <p>Reader,</p> <p>Vistas,</p> <p>English</p> <p>practice, test</p> <p>materials,</p> <p>chalk-duster</p> <p>smart class,</p> <p>green board,</p> <p>mind map</p> <p>(self-made),</p> <p>overhead</p> <p>Projector</p> <p>etc.</p>

				three or fewer words and a small image is drawn to represent the definition.	Demonstration Explanation Debate Problem Solving	PPT presenting the synopsis Documentary on the success stories of physically challenged people.
		4 th Week	Supplementary Ch-6. On the Face of It			
	NOVEMBER	1 st Week	Ch-8. Going Places	<p>1. Group Discussion on Hero-worship is the most favourite pastime of most Indians.</p> <p>2. Draw a sketch of your role model.</p> <p>3. Write diary entry about the experience and what a waste is day</p>	Brainstorming Demonstration Reading Explanation Enquiry based Lectures Classroom discussion	Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.

				<p>dreaming.</p> <p>Prepare a model of football ground.</p>	<p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	
		2 nd Week	P-6. Aunt Jennifer's Tigers	<p>1. Draw a beautiful sketch of tiger.</p> <p>2. Quiz on poetic devices.</p> <p>3. Present a mime on the condition of women in society.</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p> <p>Demonstration</p> <p>Explanation</p> <p>Debate</p> <p>Problem Solving</p>	<p>Flamingo Reader, Vistas, English practice, test materials, chalk-duster smart class, green board, mind map (self-made), overhead Projector etc.</p>

		3 rd Week	Report	<p>1. Article Writing deriving ideas from interviews.</p> <p>1. Write a Report on a recent disaster with complimentary newspaper clip.</p> <p>2. Present a special report in the form of newscast.</p>		
		4 th Week				
	DECEMBER	1 st Week	Supplementary Ch-8. Memories of Childhood	<p>1. Jot down any of your childhood experience in the form of diary entry.</p> <p>2. Is 21st century still facing the stigma of untouchability? Prepare a symposium on the same.</p> <p>3. Draw the scene when Zitkala-Sa</p>	<p>Brainstorming</p> <p>Demonstration</p> <p>Reading</p> <p>Explanation</p> <p>Enquiry based</p> <p>Lectures</p> <p>Classroom discussion</p>	<p>Documentary on the great personalities who fought against Social injustice</p>

MONTH	TOPIC	SUB-TOPIC	ACTIVITY	METHODOLOGY	TEACHING-AIDS
			was being dragged out. 4. Prepare a skit on the scene which made Bama cheerful first and disappointed later.	Demonstration Explanation Debate Problem Solving	
		2 nd Week			
		3 rd Week			
		4 th Week			
	JANUARY		Revision + Pre Board Examination Practice for ASL		
	FEBRUARY		RECAPITULATION and PREPARATION FOR FINAL ASSESSMENT		
	MARCH		FINAL EXAMINATION		

physics

APRIL	ELECTRIC CHARGES AND FIELDS	<p>Electric charges, Conservation of charge, Coulomb's law-force between two- point charges, forces between multiple charges; superposition principle and continuous charge distribution.</p> <p>Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field.</p> <p>Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).</p>	To find the value of v for different values of u in case of a concave mirror and to find the focal length.	EXPLANATION DISCUSSION OBSERVATION	CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD
	ELECTROSTATIC POTENTIAL AND CAPACITANCES	<p>Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field.</p>			CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD
MAY	ELECTROSTATIC POTENTIAL AND CAPACITANCES	<p>Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric</p>			

MONTH	TOPIC	SUB-TOPIC	ACTIVITY	METHODOLOGY	TEACHING-AIDS
MAY	CURRENT ELECTRICITY	Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current;	To determine resistivity of two / three wires by plotting a graph for potential difference versus current.	EXPLANATION DISCUSSION OBSERVATION EXPERIMENTATION	CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD
JUNE		SUMMER VACATIONS			
JULY	CURRENT ELECTRICITY	Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.	To find resistance of a given wire / standard resistor using metre bridge.		
	MOVING CHARGES AND MAGNETISM	Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform	To verify the laws of combination (series) of resistances using a metre		CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD

		<p>magnetic and electric fields.</p> <p>Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.</p>	<p>bridge.</p> <p>OR</p> <p>To verify the laws of combination (parallel) of resistances using a metre bridge.</p>		
MONTH	TOPIC	SUB-TOPIC	ACTIVITY	METHODOLOGY	TEACHING-AIDS

SEPTEMBER	ELECTROMAGNETIC WAVES	<p>resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer.</p> <p>Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer.</p>			
SEPTEMBER	HALF YEARLY EXAMINATIONS				

MONTH	TOPIC	SUB-TOPIC	ACTIVITY	METHODOLOGY	TEACHING-AIDS
OCTOBER	RAY OPTICS AND OPTICAL INSTRUMENTS	Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.	To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.	EXPLANATION DISCUSSION OBSERVATION EXPERIMENTATION	CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD
	WAVE OPTICS	Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers. Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width	To determine angle of minimum deviation for a given prism by plotting a graph		

NOVEMBER	DUAL NATURE OF RADIATIONS AND MATTER	(No derivation final expression only), coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only). Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.	To find the refractive index of a liquid using convex lens and plane mirror.	EXPLANATION DISCUSSION OBSERVATION	CHALK,DUSTER, GREEN BOARD,MODEL, SMART BOARD
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MONTH	TOPIC	SUB-TOPIC	ACTIVITY	METHODOLOGY	TEACHING-AIDS
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DECEMBER	ATOMS AND NUCLEI	<p>Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in his orbit, of hydrogen line spectra (qualitative treatment only).</p> <p>Composition and size of nucleus, nuclear force</p> <p>Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.</p>		EXPLANATION DISCUSSION OBSERVATION	
	ELECTRONIC DEVICES	<p>Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction</p> <p>Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction</p>	To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.	EXPLANATION DISCUSSION OBSERVATION EXPERIMENTATION	

JANUARY	PRE- BOARD EXAM	diode -diode as a rectifier.			
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MONTH	Week	TOPIC	SUBTOPIC	ACTIVITIES	METHODOLOGIES	TEACHING AIDS
April	1 st week	SOLUTIONS	Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law	Make a poster showing importance of osmosis	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	2 nd week		colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.	<p>Make an assignment on functioning of RO</p> <p>Make an assignment on functioning of RO</p> <p>Draw a table depicting different types of solution</p>		

April	3 rd week	ELECTROCHEMISTRY	Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity	Draw a diagram of an electrochemical cell on chart paper	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	4 th week		variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion..	<p>Draw a diagram of wheatstone bridge principle on A4 size sheet</p> <p>Make an assignment on lead storage batteries</p> <p>Draw different types of cells used by us also classify them as electrochemical or</p>		

				electrolytic cell.		
May	1 st week	CHEMICAL KINETICS	Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst;	Make a report on the role of catalyst in industries.	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	2 nd week		molecularity of a reaction, rate law and specific rate constant, integrated rate equations	Diagrammatically show the factors affecting rate of reaction		
	3 rd week		half-life (only for zero and first order reactions),	Graphically show the role of activation energy in a reaction on a chart.		
	4 th week		concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation	List out the formulas used in this chapter on an A4 size sheet.		
July	1 st week	d and f BLOCK ELEMENT	General introduction, electronic	Make a report on	<ul style="list-style-type: none"> • Discussion • Explanation 	Chalk, duster,

			<p>configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy,</p> <p>oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation,</p> <p>preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.</p> <p>Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.</p> <p>Actinoids - Electronic</p>	<p>why transition elements act as good catalysts.</p> <p>Make a figure showing chemical reactions of the lanthanoids.</p> <p>Write applications of d and f block elements on A4 sheet.</p> <p>Make a graph on A4 sheet showing trends in m.pt. of transition elements</p>	<ul style="list-style-type: none"> • observation 	<p>green board, model, smart board</p>
	2 nd week					
	3 rd week					
	4 th					

	week		configuration, oxidation states and comparison with lanthanoids			
August	1 st week	COORDINATION COMPOUNDS	Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory,	Draw the shapes of different coordination polyhedron A4 size sheet.	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	2 nd week		VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).	List out the definition of all the terms pertaining to coordination compounds on a chart.		
				one piece of chart show d orbital splitting in an		

				octahedral crystal field and a tetrahedral crystal field.		
August	3 rd week	HALOALKANES AND HALOARENES	<p>Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.</p> <p>Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).</p>	<p>Write all the name reactions in this chapter on a chart paper.</p> <p>On a chart paper show nucleophilic substitution reactions in halo alkane and haloarene.</p>	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	4 th week		<p>Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.</p>	<p>make an assignment on stereochemical aspects of nucleophilic substitution reactions.</p>		

				Make a report on polyhalogen compounds and their significance.		
October	1 st week	ALCOHOLS, PHENOLS AND ETHERS	Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol.	Write all the name reactions in the chapter on a chart paper. Show the mechanism of acid catalysed hydration of alkenes for the preparation of alcohols on an A4 size sheet.	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	2 nd week		Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic	Draw the structures of methanol phenol and methoxymet		

			substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses	hane on an A4 size sheet Show dehydration of alcohols on an A4 size sheet		
October	3 rd week	ALDEHYDES, KETONES AND CARBOXYLIC ACIDS	Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.	Write the IUPAC names of at least 10 aldehydes ketones and carboxylic acids on a chart paper.	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	Chalk, duster, green board, model, smart board
	4 th week		Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses	Write all the name reactions involved in this chapter on a piece of chart. Draw orbital diagram for the formation of carbonyl on		

				<p>an A4 size sheet</p> <p>write various methods involved for the preparation of aldehydes and ketones on a chart paper.</p>		
November	1 st week	AMINES	<p>Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.</p> <p>Diazonium salts: Preparation, chemical reactions</p> <p>importance in synthetic organic</p>	<p>Write various methods involved for the preparation of amines on a piece of chart</p> <p>Make a report on the structure basicity relationship of amines</p> <p>Assignment on</p>	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	<p>Chalk, duster, green board, model, smart board</p>
	2 nd week					
	3 rd week					
	4 th week					

			chemistry	<p>electrophilic substitution of amines.</p> <p>Make a report on importance of diazonium salts in synthesis of aromatic compounds</p>		
December	1 st week	BIOMOLECULES	<p>Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose),</p>	<p>Make a assignment on structure of glucose</p> <p>Draw the structure of starch cellulose on a chart</p>	<ul style="list-style-type: none"> • Discussion • Explanation • observation 	<p>Chalk, duster, green board, model, smart board</p>
	2 nd week		<p>polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.</p>	<p>Make a report on globular proteins</p>		
	3 rd week		<p>Proteins -Elementary idea of - amino acids, peptide bond,</p>	<p>on a chart write some</p>		

	4 th week	<p>polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins enzymes.</p> <p>Hormones - Elementary idea excluding structure.</p> <p>Vitamins - Classification and functions.</p> <p>Nucleic Acids: DNA and RNA.</p>	<p>important vitamins their sources and their deficiency diseases.</p>		
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Chemistry

May unit test - Chapter 2 (Solutions), Chapter 3 (Electrochemistry)

July test - Chapter 4 (Chemical Kinetics)

August test - Chapter 8 (d-and f-block elements)

September Half yearly syllabus - Chapter 2,3,4,8,9,10)

November test - Chapter 11(

Alcohols, Phenols and Ethers)

December test - Chapter 12 (aldehydes , Ketones and Carboxylic acids)

January pre board exams --- Full syllabus

Biology (044)

Months	Working Days	Lesson No & Name	Activity
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April	Week-1 To Week-4	Introduction of the syllabus and practicals Sexual reproduction in flowering plant	Study pollen germination by temporary slide
			Flowers adapted to pollination by different agencies
May	Week-1,2	3.Human Reproduction	Identification of stages of gamete development. and Meiosis in onion bud cell through permanent slide
	Week-3,4	4.Reproductive health	Identification of stages of gamete development. and T.S. blastula
June	Break		

July	Week- 1,2	5. Principles of Inheritance and Variation	Mendelian inheritance using seeds of different colour/size of pea plant
	Week-3	6.Molecular Basis of inheritance	To study pedigree charts of genetic traits
	Week-4	7.Evolution	
August	Week-1,2	8. Human Health and disease	Identification of common disease causing organisms. Exercise on controlled pollination
	Week-2,3	10.Microbes in human welfare	Pollen germination on stigma through permanent slide

September	Half yearly		
October	Week1,2	11.Principles and process of biotechnology	To study homologous and analogous organs
	Weel-2,3	12.Application of biotechnology in health and agriculture	Isolation of DNA
November	Week-1,2	13.Organisms and environment	Study of mitosis in onion root tip
	Week-3,4	14.Ecosystems	Model specimen to show symbolic association
November	Week-1,2	14.Ecosystems (contd)	Study of different plant populations density by

			quadrat method
	Week-3,4	15.Biodiversity and its conservation	Study of different plant populations frequency by quadrat method
December		Revision	Investigatory Project
January		Pre-boards	
February		Practicals	
March		Final practicals	

SUBJECT- Mathematics

MONTH	TOPIC	SUB-TOPICS	ACTIVITY	METHODOLOGY	TEACHING ID/
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					INSTRUCTI NAL AID
<i>APRIL WEEK 1 AND 2</i>	RELATION AND FUNCTION	Types of relation: reflexive, symmetric ,transitive and equivalence relations. one to one and onto function ,	Using thread /wool 1.To demonstrate a function which is not one-one but is onto 2. show equivalence relations 3.one-one 4 .onto	explanation by diagram, learning by doing, problem solving	Chalk board,dus ter,smart class
	INVERSE TRIGONOMETR IC FUNCTION	Definition, range ,domain ,principal value branch .graph of trigonometric function	Use sketch/thread/graph 1.To draw the graph of sin inverse x using graph of sin x 2. \cos^{-1} . show unit circle graphically		
<i>APRIL WEEK 3 AND 4</i>	MATRICES	Concept, notation, order, equality, types of matrices. transpose, symmetric,	1.To relate the matrices with real life. 2. design with the	problem solving ,Explanation.	Chalk board, duster, smart

	<p style="text-align: center;">DETERMINANT</p>	<p>skew symmetric matrices operation on matrices: addition, multiplication concept of row and column invertible matrices</p> <p>Determinant of a square matrix, properties, minors, cofactors and application of determinants in finding area of a triangle, adjoint and inverse, consistency, inconsistency, no. of solutions of linear equation on in two</p>	<p>help of row /column 3.diagram to show different type of matrix</p> <p>Make a ppt/ diagram to show determinant and its properties</p>		<p>class.</p>
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<p>MAY WEEK 1 WEEK 2</p>	<p>CONTINUIT-Y AND DIFFERENTIABI LITY</p>	<p>variable using inverse</p> <p>Continuity and differentiability chain rule, derivatives of inverse trigonometric, implicit functions ,concept of exponential and logarithmic function ,second order derivative,</p>	<p>.</p> <p>To verify rolle's theorem .</p> <p>1. show what is continuity through representation of any curve</p>		
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<i>MAY</i>	APPLICATIONS OF DERIVATIVES	Rate of change of bodies, increasing/decreasing functions, maxima and minima, simple problems basic principles and understanding of the subject as well as real life situation	<ol style="list-style-type: none"> 1. To show the concept of decreasing and increasing function through data analysis /CURVE 2 . To show the concept of absolute max. and minimum through graphics 3. To construct an open box of max. volume from a given rectangular sheet by cutting equal square from each corner 	Inductive approach, Discovery Method	Chalk board, Duster, Smart Class
<i>JULY</i>					

<p><i>WEEK 1</i> <i>WEEK 2</i></p>	<p>Integrals</p>	<p>Integration as inverse process of differentiation. integration by substitution, different forms of integration, definite, basic properties of definite integrals and evaluation of definite integrals, fundamental theorem of calculus (without proof).</p>	<p>Make a beautiful chart of all the formulas of integrations</p>		
<p>UNIT TEST</p>					
<p><i>JULY</i> <i>WEEK 3</i> <i>WEEK 4</i></p>	<p>APPLICATIONS OF THE INTEGRALS</p>	<p>Application in finding the area under simple curves, especially lines, circles/parabola /ellipse (in standard form only), definition, order</p>	<p>1.Draw beautiful diagram of parabola and line 2.Ellipse and line to show area under curve</p>	<p>Explanation, Brain storming Explanation, Brain</p>	<p>Chalk board, Duster, Smart Class</p>

<p><i>AUGUST</i> <i>WEEK 1</i> <i>WEEK 2</i></p>	<p>DIFFERENTIAL EQUATIONS</p>	<p>definition ,order and degree, general and particular solutions of a differential equation formation of differential equation by method of sepration ,solution of homogenous differential equation ,solution of linear differential equation $dy/dx+py=q$ and $dx/dy+px=q$</p>	<p>3.2 circle and shaded region that contain common area through equation of circle</p>	<p>storming</p>	
<p><i>SEPTEMBER</i></p>	<p>Revision and Half Yearly Exams</p>				
<p><i>OCTOBER</i> <i>WEEK 1</i> <i>WEEK 2</i></p>	<p>VECTORS</p>	<p>Vectors and scalers, magnitude ,directrion of vector,direction ratio and cosines ,types of vectors,component</p>	<p>1. To verify geometrically that vector $c \times (a+b) = c \times a + c \times b$</p>	<p>Discovery Method, Problem Solving,</p>	<p>Chalk board, Duster, Smart Class, Models</p>

<p>WEEK 3 WEEK 4</p>	<p>Three-dimensional Geometry</p>	<p>,addition and subtraction of vectors,properties of dot product and cross product,application of scalar product , vector product, geometrical interpretation</p> <p>Direction cosines and direction ratio of a line joining two points, Cartesian equation and vector equation of line ,shortest distance,angle between two lines,skew lines.</p>	<p>b</p> <p>1. Find the shortest distance between two skew lines</p>	<p>Explanation, Problem Solving</p>	
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<p><i>NOVEMBER</i> <i>WEEK 1</i> <i>WEEK 2</i></p>	<p>Linear programming</p>	<p>Introduction, related terminology such as constraints, objective function, optimization, different types of L.P ,mathematical formulations of l.p, graphical method of solution for problem in two variable ,feasible and infeasible solutions, optimal feasible solutions</p>	<p>Project : To minimize the cost of food ,meeting the dietary requirements of staple food of the adolescent student of your school</p>	<p>Project, Discussion, Problem Solving,</p>	<p>Chalk board, Duster, Smart Class</p>

<p>WEEK 3 WEEK 4</p>	<p>PROBALITY</p>	<p>Conditional probability, multiplication theorem, indepent event, total probability, bayes theorem</p>			
<p>DECEMBER</p>	<p>PROBABILITY</p>	<p>Random variable and its probability distribution, mean of random variable.</p>	<p>1.To explain the computation of conditional 2. probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice. 3.Show outcomes of coin ,dice, cards through diagram or real objects</p>	<p>Problem Solving, Explanation</p>	<p>Chalk board, Duster, Smart Class</p>

<i>JANUARY</i>	Pre-board 1				
<i>FEBRU- ARY</i>	REVISION AND ANNUAL EXAMS				
<i>MARCH</i>	ANNUAL EXAMS				

BOOKS PRESCRIBED – NCERT TEXT BOOK, NCERT EXAMPLERS, LAB MANUAL

Physical and Health Education

Month	Chapter	Sub Topics	Activities	Methodology	Instructional
April	1. Management of sporting events	<p>1. Management of Sports eventmanagement- & objectives of planning.</p> <p>2. Various committees & its responsibilities (pre, during & post)</p> <p>3. Procedure to draw fixtures-knock-out(bye & seeding) & league (staircase & cycle)</p>	<p>Make a chart on specific sports programmes.</p> <p>Make a project on knock - out (bye, seeding and league) .</p> <p>Write a paragraph on intramural and extramural</p>	Lecture method.	<ul style="list-style-type: none"> Green board Educomp smart board
May	2. Children and women in Sports	<p>1. balanced diet & nutrition: Macro & micro nutrients</p> <p>2 nutritive & non- nutritive Components of diet</p> <p>3 eating for weight control- a healthy weight, the pitfalls of dieting, food intolerance& food myths</p> <p>1 common postural deformities</p> <p>2. Special consideration</p> <p>3 Female athletes</p> <p>1. Obesity</p> <p>2. Diabetes</p> <p>3. Asthma</p> <p>4. Hypertension: Tadasana, vajrasana, Pavanmuktasana, ardha chakrasana, Bhujangasana, shavasana</p>	<p>Make chart tabulation on macro and micro nutrients.</p> <p>Write an article on the need of balanced diet.</p> <p>Make a project on macro nutrients.</p> <p>Make a project on yoga with different asanas.</p> <p>Make a project on asana for curing the patients of diabetes.</p>	<p>Explanation method</p> <p>Interactive method</p>	<ul style="list-style-type: none"> Green board Educomp smart board
	3. Yoga as preventive measures for Lifestyle				
SUMMER BREAK					

June	Disease	<p>Revision</p> <ol style="list-style-type: none"> 1 concept of disability & disorder. 2 Types of disability its causes & nature c cognitue disability, intellectual disability, physical di-sablity. 3 Types of disorder , its cause & nature (ADHD, SPD, ASD,ODD,OCD) 4 Disab lity etiquettes 5 Advantange of physical needs 6 Strategies to make physical with special need. 	<p>Make a chart on different asanas.</p> <p>Make a flash card on different lifestyle diseases.</p>		
July July unit Test 1	4. Physical education and sports for CWSN.	<ol style="list-style-type: none"> 1 Motor development & factors affecting it. 2 Exercise guidelines at different stages for growth & development. 3. Common posture deformities- Knock knee, flat foot, round shoulders, lordosis, kyphosis, scoliosis, bow legs corrective measures for postural deformities. 4 sport participation of women in india 5 Special consideration (menarch & menstrual disfunction. 6 Female athletes triad (oestoperosis, amenorid, eating disorders. 	<p>Make a chart on Disability and disorder.</p> <p>Make a project on cause and nature (ADHD,SPD,ASD,ODD,OCD)</p> <p>Speach on disability etiquettes.</p> <p>Chart showing on the stages of development.</p> <p>Poster on comman postural deformities.</p>	Lecture Method	Green board
August	5. Sports and Nutrition	<ol style="list-style-type: none"> 1.. Concept of balance diet 2.macro and micro nutrition 	<p>Make a chart showing the stages of development.</p> <p>Make a poster on common postural deformities.</p> <p>Make a 3-dimensional model of female triad.</p>	Interactive lecture method	Explanation method.

September		<p>Revision HALF YEARLY EXAM</p>	<p>Make a collage on sports participation of women in India.</p> <p>Write an article on the need of balanced diet.</p> <p>Make a project on macro nutrients.</p>		
October	6.Test and measurement in sports	<ol style="list-style-type: none"> 1. Motor fitness test- 50 M standing start, 600 mt. run/walk, sit & reach, partial girls, standing board jump, agility- 4x 10 mt. shuttle run. 2. General motor fitness- barrow three item general motor ability (standing board jump, zig-zag run, medicine ball put- for Boys: 03 kg & for girls: 01 kg. 3. Measurement of cardio vascular fitness- Harvard step test/ rock port test 4. Computatiomn of fitness index:= <u>Duration of the exercise in sec x 100</u> 4.5 x pulse count of 1- 1.5min.after exc. 5. Rikli and jones – senior citizen fitness Test: 	<p>Make a project on motor fitness test.</p> <p>Make a flashcard showing Rikli and jones senior citizen fitness test.</p> <p>Make a chart tabulation Harvard step test and rockport test.</p> <p>Make a chart general motor fitness test.</p>	<p>Explanation method</p> <p>Deductive and inductive method</p> <p>Demonstration method</p>	<p>Green board</p>

	7. Physiological and injuries in sports.	<ul style="list-style-type: none"> i) Chair stand test for lower body strength. ii) Arm curl test for upper body strength. iii) Chair reach & reach test for lower body flexibility. iv) Back scratch test for upper body flexibility. v) Eight foot up and go test for agility, six minute walk test for aerobic endurance. 			Green board
November		<ol style="list-style-type: none"> 1. Physiological factors determining Components of physical fitness. 2. Effect of exercise on cardio respiratory system. 3. Effect of exercise on muscular system. 4. Physiological changes due to ageing. 5. Sports injuries: classification soft tissue injuries (abrasion, contusion, laceration, incision sprain and strain) bone and joint injuries: (dislocation, fractures: Stress fracture, green stick, comminuted, transverse, oblique 	<p>Make a project on sports injuries</p> <p>Make a chart tabulation on bone and joint injuries (Fracture and Dislocation)</p> <p>Make a project file on effect of exercises on cardio respiratory system.</p> <p>Make a flashcard showing First aid, its aim and objectives</p>		Green board
December Unit test II	8. Biomechanics & sports	<ol style="list-style-type: none"> 6. First aid – Aims & objectives 1. Meaning and importance of biomechanics in sports. 2. Types of movement (flexion, extension, abduction and adduction 	<p>Make a flashcard showing importance of biomechanics in sports.</p> <p>Make a chart tabulation on types of movement.</p>		

January	<p>9. Psychology and sports.</p> <p>10. Training in sports</p>	<p>3. Newton's law of motion and its application in sports.</p> <p>4. Friction and sports.</p> <p>Revision for Unit Test.</p> <p>1. Personality, its definition and types. Trait and types (sheldon and jung classification and big five theory.</p> <p>2. Motivation, its types and techniques.</p> <p>3. Exercise adherence, reasons to exercise, benefits of exercise.</p> <p>4. Strategies for enhancing adherence to exercise.</p> <p>5. Meaning, concept and types of aggression in sports.</p> <p>1. Strength- definition types and method of improving strength- isometric, isotonic and isobinetic.</p> <p>2. Endurance- definition, types and methods to develop endurance continuous training, interval training and fartlek training</p> <p>3. Speed definition type and methods to develop speed- acceleration run, and pace run</p> <p>4. Flexibility – definition, types and methods to improve flexibility</p> <p>5. Coordinative abilities - definition and types</p> <p>6. Circuit training, introduction and its importance.</p>	<p>Make a project on friction and sports.</p> <p>Make a project on psychology in sports.</p> <p>Make a poster depicting different personalities on the basis of physical traits.</p> <p>Write a speech on motivation.</p> <p>Make a chart on Big Five theory.</p> <p>Make a project file on Training in sports.</p> <p>Make a chart showing Circuit Training and its importance.</p> <p>Make a poster showing route of Fartlek Training Programme.</p> <p>Explain the five components of physical fitness on a A4 sheet.</p>		
February	<p>Pre board</p> <p>Revision</p>				

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