



TAGORE INTERNATIONAL SCHOOL
EAST OF KAILASH, NEW DELHI

PARENTS SYLLABUS - XII C
JULY - SEPTEMBER (2020– 21)

ENGLISH

MONTH	TOPICS/NO. OF PERIODS	LEARNING OUTCOMES	ACTIVITY	ASSESSMENT
July	Topic: A Thing of Beauty by John Keats (5)	Each student will be able to analyse the poem to make a critical appreciation identify the poetic devices and explain how they are used in the poem annotate the lines of the poem with reference to the context bring out beauty in every creation of God, whether big or small	Students will do the following: Group Discussion: Read up on the poet and discuss him and his works. Pair Work Interpret the title, pick out the poetic device used. Individually , list down the things of beauty that they see around them <u>Art Integrated Activity</u> All Things Bright and Beautiful Beauty is a heavenly tonic/drink – an endless fountain of nectar. This beauty comes in different	Students will be assessed through the: Short Revision Test through Google forms Practice Worksheets Assignment Long Answer Questions

			<p>forms– a tale, a poem, a play, a lovely object of nature or the heavenly bodies. It soothes our spirits and gives us good health, sound sleep and mental peace. It removes sadness from our lives and gives an everlasting joy. Keeping te central idea of the poem in mind, specify an art form that soothes your spirit and refreshes your mind. Create that art work and mention why it is a source of happiness to you.</p> <p>Examples: Composing a song, poem/ singing a song/ playing a musical instrument/painting/sketching /reading/creating a shape poetry/ dancing, etc and record them.</p>	
July	<p>Topic: The Rattrap by Selma Lagerlof (5)</p>	<p>Each student will be able to</p> <p>effectively provide a synopsis of the story.</p> <p>analyze the values and thought process of the story.</p> <p>identify the insecurity while tackling personal fears and horrors that lurk in the recesses of our mind.</p> <p>appreciate the significance of</p>	<p>Students will do the following:</p> <p>Debate : The whole world is nothing but a great rattrap. Group activity *****</p> <p>Speech writing: Needs for inculcating moral values’ in about 100 words. *****</p> <p>Article writing: ‘The Rattrap’ is a story that</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>

		<p>developing personal fears yet rising above them to savor real liberty. Their vocabulary would be enriched.</p> <p>justify the title</p> <p>express themselves through the writing tasks</p>	<p>focuses on human loneliness and the need to be kind to others. It shows how an act of kindness can change a person's view of the world. In keeping with this mood of the story, write an article on 'On being kind'.</p>	
July	<p>Topic: Keeping Quiet by P. Neruda (3)</p>	<p>Each student will be able to</p> <p>comment on the need of the hour to maintain peace</p> <p>cut out the clamour and bloodshed, correlating it with contemporary background and personal experiences.</p> <p>up threat and gently heed with the predictable loss of the world. (global domain)</p>	<p>Students will do the following:</p> <p>Keep still physically and mentally for about two minutes to feel the change in the state of mind.</p> <p>List down the various sounds that they can hear and experience</p> <p><u>Art Integrated Activity</u></p> <p>Let Peace Prevail: Imagine that the world has come to an end. You and your friends have survived You decide to create a new society where only peace and brotherhood prevails. Create your society. You will draw/sketch/ paint/your society wherein you enlist the following things: A map, the motto, rules to govern your society, a symbol of</p>	<p>Students will be assessed through: Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>

			peace, etc.	
July	Topic: The Third Level (2)	Each student will be able to analyze Jack Finney's word choices analyze the text structure of The Third Level determine the meaning of words and phrases as used in the poem familiarize themselves with the concept of time travel	Students will do the following: Discuss in groups Philately helps keep the past alive, Discuss other ways in which this is done Debate: ***** Charlie had visited the third level, listing examples supporting ones statement	Students will be assessed through: Short Revision Test through Google forms Practice Worksheets Assignment Long Answer Questions
August	Topic: Indigo by Louis Fischer (5)	Each student will be able to: learn more about the Champaran Movement analyze Gandhi's role in helping peasants comment on the sharecropping agreement draft a character sketch of Rajkumar Shukla comment on Gandhi's influence on the lawyers analyze how self-reliant Indian independence and help to sharecroppers were all bound together	Students will do the following: Debate: ***** Gandhi considered freedom from fear more important than legal justice for the poor peasants of Champaran Speech writing: ***** The text 'Indigo' expresses the value of freedom and Indians' fight for freedom. How would you define FREEDOM? Write your views in the form of a speech to be delivered in the morning assembly of your school. Don't exceed 150 words. Article writing:	Students will be assessed through: Friday Test: 28.8.20 Short Revision Test through Google forms Practice Worksheets Assignment Long Answer Questions

			<p>Getting a clue from the way Mahatma Gandhi dealt with the Champaran episode, write an article on 'qualities of a good leader' or 'what makes a good leader'.</p> <p>Paragraph writing: Non-Violence' and 'Truthfulness' were Gandhi Ji's tools against the British. He fought with them and won the battle. It proves that 'non-violence' has the power. So, write a paragraph on the issue in about 100 words.</p>	
August	<p>Topic: Poets and Pancakes by Asokamitran (3) *****</p>	<p>Each student will be able to</p> <p>analyze and justify the title</p> <p>comment on the humour used and the theme of the lesson</p> <p>bring out the struggle that Ashokmitran went through</p>	<p>Students will do the following:</p> <p>Paragraph writing: You must have met some interesting characters in your neighbourhood or among your relatives. Write a humorous account about their idiosyncracies</p> <p>Article writing : There was a great deal of National Integration in the Gemini studios with the make-up department being headed by people from all parts of India in succession.(Poets and Pan cakes by Asokamitran) The need of the hour in India is an</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>

			<p>idealistic situation where people are more tolerant towards each other to realize the dreams, our founding fathers had dreamt at the time of independence. What role could the Youth of India play in this regard?</p> <p>Art integrated Activity</p> <p>Creating a collage or a cartoon strip: Collect about twenty cartoon strips from newspaper and magazines in any language to discuss how important people or events have been satirized. Comment on the use of words and pictures used. You may also create a comic strip on the same lines.</p>	
August	Topic: A Roadside Stand by Robert Frost (4)	<p>Each student will be able to</p> <p>bring out the callous attitude of the rich towards the poor</p> <p>bring out the poet's urge for sympathy for rural people and analyse the title</p> <p>comment on the theme- reality of class difference between the city rich and the rural poor</p>	<p>Students will do the following:</p> <p>Drafting a notice: Your school is going to conduct a symposium on the issue, Rural Urban Divide, for the students of Class XII. Draft a notice for the school notice board.</p> <p>Discuss:</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>

		comment on the rhyme scheme and the stanza division	In Robert Frost's assertion that the 'hurt to the scenery' does not bother him, focus shifts to the futility of people generally being obsessed with appearances as well. Comment on how pre occupation with appearances is detrimental for society	
August	Topic: Should Wizard Hit Mommy by John Updike (4)	Each students will be able to familiarize themselves with specific background while tackling personal choices on security, familiarity and happiness. make connections between similar situations in personal experiences. appreciate the timeless significance of universal fears of loss and gain, of happy ending and parenting issues	Students will do the following: Debate: ***** Parents must always decide what is best for their children Discuss: Nursery rhymes and fairy tales are a reflection of reality <u>Art Integrated Activity</u> Role Reversal A panel discussion through role play where John Updike answers a set of questions asked by his characters with reference to the lesson	Students will be assessed through: Short Revision Test through Google forms Practice Worksheets Assignment Long Answer Questions
September	Topic: Aunt Jennifer's Tigers by Adrienne Rich (4)	Each student will be able to: facilitate making connections between similar situations in different storylines/life experiences. empathize with Aunt Jennifer's	Students will do the following: Article writing: No two individuals will be similar and will think alike. Each has to accept the other with their differences. When one is unable	Students will be assessed through: Short Revision Test through Google forms Practice Worksheets

		<p>problems and seek resolution.</p> <p>think and produce spontaneous, fluid and expression in poetic texts to convey a social change.</p> <p>discern prevailing inequalities in various guises.</p> <p>justify the title</p>	<p>to do so, the relationship itself becomes a burden. And, that is what happened to Aunt Jennifer. What changes do you advocate to promote marital harmony.</p> <p>Paragraph writing: What changes can be brought about in the society for uplifting the position of women, like Aunt Jennifer</p>	<p>Assignment Long Answer Questions</p>
September	Topic: On the Face of It by Susan Hill (5)	<p>Each student will be able to</p> <p>fight out their loneliness, depression and disappointment.</p> <p>accept the physically challenged people positively in their life and expand their social interaction.</p> <p>build up optimism and self confidence.</p> <p>justify the title</p> <p>express themselves through an article writing</p>	<p>Group discussion: “It’s got nothing to do with my face and what I look like”</p> <p>Article Writing: Appearances are deceptive.</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>
September	Topic: Evans Tries an O- Level by Colin Dexter (5)	<p>Each student will be able to</p> <p>familiarize themselves with specific background of the cat and mouse role of the police and the criminal.</p> <p>identify and make connections</p>	<p>Students will do the following:</p> <p>Discuss in groups: Would Education in the jails help in refining prisoners? L</p> <p>Justify in pairs, the title, ‘Evans</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p>

		<p>between similar situations in their own country where each of us witness the dereliction of duty of the law keepers and their complacent laxity.</p> <p>write character sketches</p> <p>justify the title</p> <p>improve upon their writing skills</p>	<p>Tries an O-Level'. Suggest another title for it.</p> <p>Create a timeline account of how Evans planned and executed his escape from the prison at Oxford despite all the security measures that had been taken to ensure against that. A</p>	<p>Assignment Long Answer Questions</p>
<p>September</p>	<p>Topic: The Interview by Christopher Silvester(3) *****</p>	<p>Each student will be able to</p> <p>learn about the technique of 'interview' as a new way of interrogating.</p> <p>list down the use of linkers and signallers while conducting an interview</p> <p>give reasons why Umberto Eco likes/does not like being interviewed</p> <p>analyse why the novel, The Name of the Rose is a great success</p>	<p>Students will do the following:</p> <p>Report Writing: produce a sort report of the interview conducted by Mukund Padmanabhan using the salient points</p> <p>Work in pairs to list down the use of linkers and signallers while conducting an interview</p> <p><u>Art Integrated Activity</u></p> <p>Create a concept map of interview Dos and Don'ts. Watch and analyze a real interview.</p> <p>Review and revise sample interview questions. Brainstorm questions for an interview.</p>	<p>Students will be assessed through:</p> <p>Short Revision Test through Google forms</p> <p>Practice Worksheets</p> <p>Assignment Long Answer Questions</p>

			Conduct and record an interview	
September	ASL	<p>Each student will be able to</p> <p>extract information from the audio scripts</p> <p>respond correctly based on their listening skills</p> <p>speak on a particular topic</p> <p>exchange ideas based on the topic given</p>	<p>Students will</p> <p>listen to the audio transcript carefully .</p> <p>complete the worksheet based on their listening skill.</p> <p>speak on a given topic.</p>	<p>Students will be assessed through</p> <p>Worksheets</p>
*****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.			

PHYSICS

Month	Topic	Learning Outcomes	Activities	Assessment
July	Electromagnetic Induction No. of classes :11	<p>Each student will be able to—</p> <ul style="list-style-type: none"> -explain the consequences of Faraday's and Henry's experiments. -state Faraday's laws in EMI and Lenz's Law. -apply Lenz's law/ Fleming's right hand rule to infer the direction of induced current to different circuit configurations. - differentiate between self and mutual induction. - derive mathematically the values of self- 	<p>Students will</p> <ul style="list-style-type: none"> - create their own mind map / flow chart on terms/concepts related to electromagnetic induction. - apply Lenz's law / Fleming's right hand rule to find direction of induced current in different cases. - identify the type of combination of the inductors 	<p>Online quizzes using Google Form</p> <p>Class participation (written + oral)</p> <p>Weekly assignments/worksheets (submission of work)</p>

		<p>inductance of a long solenoid, mutual inductance of two coaxial solenoids.</p> <ul style="list-style-type: none"> - list the applications of eddy currents. - state the working principle of a transformer. -interpret the causes of power loss in transformers. - list the ways of reducing the power loss in transformer. - apply concepts and formulae and solve conceptual and numerical questions. 	<p>as series or parallel and write equation for equivalent self inductance.</p> <p>Lab activity: demonstration of experiment using O labs:(i)To find resistance of a given wire / standard resistor using meter bridge.</p> <p>(ii) To determine the frequency of AC mains using a sonometer and U shaped magnet.</p> <p>Art Integration Activity: Creative Corner- let your creativity speak – Using any one of the given performing art form ie music(self composed song), dance, acting or poetry recitation, each student has to submit a presentation of not more than 2 minutes on any one of the topics given below : *Self Induction / *Mutual induction/ *Eddy Currents</p>	
July (contd.)	Alternating Current No. of classes :10	<p>Each student will be able to-</p> <ul style="list-style-type: none"> - differentiate between ac and dc voltage. - mathematically derive the equation for mean value and rms value of a c voltage /current. -explain behavior of resistor, capacitor and inductor to AC and derive phase 	<p>Students will</p> <ul style="list-style-type: none"> -tabulate the values of operating voltages of some of the electrical appliances at home and convert them into their peak value of ac voltage. 	<p>Online quizzes using Google Form</p> <p>Class participation (written + oral)</p> <p>Weekly assignments/worksheets</p>

		<p>relation between current and voltage for these.</p> <ul style="list-style-type: none"> -represent the phase relation between current and voltage through phasor diagrams . - deduce the phase relation between current and voltage in a LCR circuit. -correlate resonance in LCR circuit and its application in tuning. -graphically represent the dependence of current on frequency for series LCR circuit. -state the principle of working of an a c generator. - explain the construction of the ac generator using diagram. - mathematically derive the expression for the induced emf and induced current for the same. 	<ul style="list-style-type: none"> -use phasor diagram to represent phase relation between current and voltage for inductor and capacitor circuits. -compare the role of resistor and inductor in an ac circuit using a Venn Diagram. - draw graphs to show variation of current with frequency for parallel LC circuit <p>Lab activity: demonstration of experiment using O labs: (i)To find the resistance of a galvanometer by half deflection method and hence calculate its figure of merit.</p> <p>Lab activity: ***<i>demonstration of experiment using O labs (ii) To verify the laws of combination (series) of resistances using a metre</i></p>	<p>(submission of work)</p>
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<u>Month</u>	<u>Topic</u>	<u>Learning Outcomes</u>	<u>Activities</u>	<u>Assessment</u>
August	Optics (Ray optics) No. of classes :12	<p>Each student will be able to--</p> <p>***differentiate between image formed by plane mirror and spherical mirrors.</p> <p>***derive mathematically the mirror formula.</p> <p>***apply the concepts of reflection and to explain observations in daily life like : use of convex mirror as rear view mirror, concave mirror as shaving mirror and develop drawing skills.</p> <p>-draw ray diagram to show refraction of light through a compound plate.</p> <p>- explain the phenomenon of TIR.</p> <p>-differentiate between reflection and TIR.</p> <p>-apply condition for TIR to explain the uses of totally reflecting prisms.</p> <p>- mathematically deduce the expression for refractive index of an equilateral glass prism.</p> <p>- graphically represent the variation of angle of deviation with angle of incidence for a glass prism.</p> <p>-draw ray diagram to show refraction of light through a spherical refracting surface and a thin lens.</p> <p>-derive lens maker's formula and lens formula mathematically.</p> <p>***distinguish between scattering of light</p>	<p>bridge.</p> <p>Students will</p> <p>***complete the flow chart on the important aspects of image formation by concave and convex mirror.</p> <p>- compare the image formed by concave mirror and convex lens.</p> <p>- draw a Venn diagram to show similarity and difference between reflection and TIR.</p> <p>- discuss the difference between scattering of light and dispersion of light.</p> <p>Lab Activity: demonstration of experiment using O labs: (i) To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation. (ii) To find the value of v for different values of u in case of a concave mirror and to find the focal length.</p>	<p>Online quizzes using Google Form</p> <p>Class participation (written + oral)</p> <p>Weekly assignments/worksheets (submission of work)</p> <p>Art Integration Activity</p>

		<p>and dispersion of light. <i>***infer the conditions for Rayleigh's scattering and interpret the color of the sky at sunset and sunrise due to scattering if light.</i></p> <ul style="list-style-type: none"> - draw ray diagrams to show image formation by a simple and compound microscope, astronomical telescope. - deduce mathematically the expression for the magnifying power of the optical instruments. -apply the concepts and formulae logically to solve related conceptual questions and numerical. 	<p>Art Integration Activity: Scientific Shutter (Photography) Each student will capture image of a naturally occurring phenomenon related to light depicting reflection/ refraction/ scattering/ dispersion or any other phenomenon. The image should have date and time stamp clearly visible on it. An appropriate caption and a proper explanation must be given in writing for the captured image for submission.</p>	
September	<p>Optics (Wave optics) No. of classes :10</p>	<p>Each student will be able to—</p> <ul style="list-style-type: none"> -correlate wave motion of electromagnetic waves to mechanical waves and infer that light has dual nature. -state Huygens Principle. -draw the reflected and refracted wave fronts. -apply it to prove laws of reflection and refraction. -interpret the conditions for coherency of sources and sustained interference. - deduce mathematically the conditions for constructive and destructive interference, fringe width in Young's double slit experiment and single slit diffraction. 	<p>Students will :</p> <ul style="list-style-type: none"> -draw the reflected/ refracted wave fronts from a spherical mirror, lens and a prism. -draw the graph between intensity and path difference for interference and diffraction due to single slit. -design their own diffraction single slit using razor blades and try and observe diffraction pattern. <i>***find the resolving power of their own eyes.</i> <p>Lab Activity: demonstration of experiment using O</p>	<p>Online quizzes using Google Form</p> <p>Class participation (written + oral)</p> <p>Weekly assignments/worksheets (submission of work)</p> <p>Assessment 2 (11.9.20)</p>

		<p>-sketch graph between intensity and fringe width for diffraction and interference of light.</p> <p>*** <i>explain polarization of light and conclude that it is due to its transverse nature.</i></p> <p>*** <i>correlate resolving power of optical instruments to limit of resolution.</i></p> <p>-apply the formulae and concepts logically to solve related numerical and conceptual questions.</p>	<p>labs: To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.</p>	
September (contd)	Electronic Devices No. of classes:8	<p>-differentiate between conductors, insulators and semiconductors on the basis of conductivity and energy band diagram.</p> <p>-explain the formation of p type and n type semiconductors and pn junction diode.</p> <p>-draw circuit diagrams for characteristics of diode and graphically represent the variation of I with V.</p> <p>- draw circuit diagram to show working of a diode as a rectifier.</p> <p>- compare the working of a diode as half wave rectifier and a full wave rectifier.</p> <p>-list the uses of semi conductor in various electronic devices.</p> <p>-differentiate between the different types of special diodes on the basis of their uses.</p> <p>*** <i>using circuit diagram, explain working of a zener diode as a voltage regulator.</i></p> <p>- graphically represent the variation of current with voltage for the special purpose diodes (except zener diode)</p>	<p>Students will:</p> <p>-draw the energy band diagrams for p and n type semiconductors.</p> <p>-compare the circuit symbols of various special purpose diodes with their images.</p> <p>- make a list of electronic appliances at home where a voltage regulator might be used.</p> <p>- compare the IV graphs for semiconductors with that of conductors and decide whether they follow Ohm's law or not.</p> <p>Lab Activity: demonstration of experiment using O labs:(i) To draw the I-V characteristic curve for a p-n junction diode in forward bias and reverse bias.</p>	<p>Online quizzes using Google Form</p> <p>Class participation (written + oral)</p> <p>Weekly assignments/worksheets (submission of work)</p>

			<p>***Lab Activity: demonstration of experiment using O labs:(ii) To draw the characteristic curve of a zener diode and to determine its reverse breakdown voltage.</p>	
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The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.

CHEMISTRY

Month	Topic Covered No. of Periods	Learning outcome	Activities	Assessments
July	Alcohols, Phenols and Ethers No. of periods:	Each student will be able to: <ul style="list-style-type: none"> Name alcohols, phenols and ethers according to IUPAC nomenclature. Draw the isomers for a given mol. formulae. Write equations for the preparation of preparation of alcohols, phenols and ethers. Compare the acidity of different types of alcohols. Explain the name reactions and their mechanism (ReimerTiemann reaction, Williamsons Synthesis, Kolbe reaction). Distinguish between different types of alcohols based on Luca's test and also 	<ul style="list-style-type: none"> Students will be shown few items used at home and will be asked about the common feature. Draw concept map using miMind app. Chemical tests and equations to distinguish between the given pair of compounds-Iodoform test and for the functional group in organic compounds: alcoholic (Na metal test) and phenolic group (Coupling reaction). Lab Activity Demonstration of Experiment (OLabs) Determine the strength of the given KMnO_4 solution by titrating it against 	<ul style="list-style-type: none"> Online Quiz using Google Forms Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work)

		<p>write the reactions involved.</p> <ul style="list-style-type: none"> Solve equation based questions on the chemical properties of aliphatic and aromatic ethers (Anisole). Solve interconversions related to alcohols, phenols & ethers. 	M/40 Mohr's salt solution.	
July contd..	<p>Chemical Kinetics</p> <p>No. of periods: 7</p>	<p>Each student will be able to:</p> <ul style="list-style-type: none"> Define and distinguish between average and instantaneous rate. Express rate in terms of reactants and products & Rate law. Explain the dependence of rate on factors like concentration, temperature, volume and catalyst. Distinguish between elementary and complex reactions. Discuss the mechanism of complex reactions. Differentiate between order and molecularity. Derive integrated rate equations for zero & first order reaction & solve numericals related to them and half life. Analyses the graphs for determination of the rate constant. <p>**** Define the terms-Threshold & Activation Energy.</p> <p>**** Explain Collision theory.</p> <p>**** Derive Arrhenius equation & solve numericals related to it.</p>	<ul style="list-style-type: none"> Students will be asked about the different types of chemical changes/ they observe around them and in what respects are they different from each other. Compare the graphical representations for average and instantaneous rate of reaction, zero and first order reactions. Kinetics study on the reaction between between sodium thiosulphate and hydrochloric acid. Lab Activity Demonstration of Experiment (OLabs) <ul style="list-style-type: none"> Determine the strength of the given KMnO_4 solution by titrating it against M/40 Oxalic acid solution. Determine the percentage purity of the given samples of KmnO_4 using the above two titrations. 	<ul style="list-style-type: none"> Online Quiz using Google Forms Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work)

<p>August</p>	<p>Aldehydes, Ketones and Carboxylic Acids</p> <p>No. of periods: 11</p>	<p>Each student will be able to:</p> <ul style="list-style-type: none"> • Name aldehydes, ketones and carboxylic acids according to IUPAC nomenclature. • Draw the isomers for a given mol. formulae. • Write equations for the preparation of ethanal, acetone & ethanoic acid. • Explain the equations for name reactions (Stephen, Rosenmund, Clemmenson reduction, Cannizzaro, Aldol condensation, HVZ & Boradine Hunsdiecker reaction). • Compare the reactivity of aldehydes and ketones towards nucleophilic addition reactions. • Discuss and apply the mechanism for Aldol condensation and reactions involving Grignard reagent. • Distinguish between aldehydes and ketones- Tollen's, Fehling and Iodoform test giving the equations involved. • Explain the test for carboxylic group (sodium bicarbonate test, Esterification) and write the equations involved. • Compare the acidity of different types of acids. <p>• Solve interconversions and structural</p>	<ul style="list-style-type: none"> • Brainstorming for mechanism involved in Nucleophilic addition, Aldol and Cross Aldol. • List the fruits containing carboxylic acids. • Chemical tests for the Aldehydic, Ketonic & Carboxylic functional groups present in the organic compounds. • Lab Activity <p>Demonstration of Experiment (OLabs)</p> <ul style="list-style-type: none"> • Qualitative analysis instructions for the classification and the chemical tests of acidic radicals (anions) and basic radicals (cations). • To determine an anion and a cation present in the given salt sample. • Art Integration Activity (Role Play) Comparison of the reactivity of Aldehydes and Ketones towards Nucleophilic Addition Reactions 	<ul style="list-style-type: none"> • Online Quiz using Google Forms • Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • Art Integration • Assessment 2 (14.08.2020)
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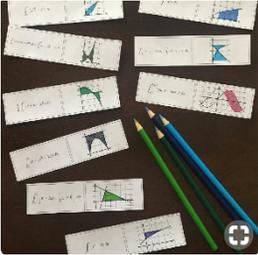
		elucidation questions related to aldehydes, ketones & carboxylic acids.		
August contd..	d and f block elements No. of periods: :	<p>Each student will be able to:</p> <ul style="list-style-type: none"> Justify the position of d & f block elements in the periodic table. Write electronic configuration & predict common characteristics of the d and f block elements. Explain the periodic trends in d block elements. Relate the general characteristics and properties of d and f block elements with their electronic configuration. Discuss the consequences of f-block elements w.r.t lanthanide contraction. 	<ul style="list-style-type: none"> Relate screening effect to class seating arrangement to understand and discuss Lanthanoid contraction-reasons and consequences. Lab Activity Demonstration of Experiment (OLabs) <ul style="list-style-type: none"> To determine an anion and a cation present in the given salt samples. (Group 0 & 1 – Pb & Ammonium salts) 	<ul style="list-style-type: none"> Online Quiz using Google Forms Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work)
Sept.	d and f block elements contd.. No. of periods: :	<p>Each student will be able to:</p> <p>**** Discuss the methods of preparation and chemical properties of $KMnO_4$ & $K_2Cr_2O_7$ by writing the reactions involved.</p> <p>**** Draw and explain the structures of manganate and dichromate ions involved.</p> <p>**** Give a comparative account of the lanthanoids and actinoids with respect to their electronic configurations, oxidation states and chemical behaviour.</p>	<ul style="list-style-type: none"> Study Chameleon Color Changing Experiment. www.youtube.com/watch?v=cBgps8uax2s Lab Activity Demonstration of Experiment (OLabs) <ul style="list-style-type: none"> To determine an anion and a cation present in the given salt samples. (Group 3 & 4 – Al and Zn salts) 	<ul style="list-style-type: none"> Online Quiz using Google Forms Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work)
Sept.	Organic Compounds	<p>Each student will be able to:</p> <ul style="list-style-type: none"> Classify amines as primary, secondary 	<ul style="list-style-type: none"> Discussion on the composition of Nicotine (in Tobacco) and 	<ul style="list-style-type: none"> Online Quiz using Google Forms

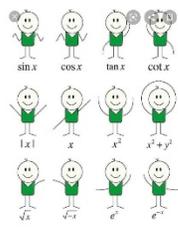
contd..	<p>With Functional Groups Containing Nitrogen (Amines)</p> <p>No. of periods: :</p>	<p>and tertiary.</p> <ul style="list-style-type: none"> Name Aliphatic and Aromatic Amines according to common and IUPAC nomenclature. Draw the isomers for a given molecular formulae. Write the chemical equations for various methods of preparation of Ethylamine and Aniline. Explain the reactions for the chemical properties of amines. Explain name reaction (Hoffmann Ammonolysis & Hoffmann Bromamide reaction). Distinguish between 1^o, 2^o & 3^o amines (Hinsberg test). <p>**** Explain the preparation of Benzene Diazonium Chloride.</p> <p>**** Discuss the importance of Diazonium salts in the synthesis of a series of aromatic compounds including azo dyes.</p> <ul style="list-style-type: none"> Solve interconversions, reasoning and application based questions related to amines. 	<p>Caffeine (in tea and coffee).</p> <ul style="list-style-type: none"> Draw concept map using miMind app <p>Lab Activity</p> <p>Demonstration of Experiment (OLabs)</p> <ul style="list-style-type: none"> To determine an anion and a cation present in the given salt samples. (Group 5 - Ba, Sr, Ca salts) 	<ul style="list-style-type: none"> Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work)
Sept. contd..	Coordination Compounds	<p>Each student will be able to:</p> <ul style="list-style-type: none"> Define the terms:-complex, coordination no, ligand, coordination 	<ul style="list-style-type: none"> Discussion on how alums / Mohr salt are different from potassium ferro cyanide. 	<ul style="list-style-type: none"> Online Quiz using Google Forms

	No. of periods:	<p>sphere, coordination entity, counter ion, oxidation state.</p> <ul style="list-style-type: none"> Calculate oxidation state & coordination no of central atom/ion hence name the coordination compounds according to IUPAC nomenclature rules. <p>**** <i>Draw the structural and stereo isomers for a given complex.</i></p> <ul style="list-style-type: none"> Discuss the nature of bonding in coordination compounds using-Werner's theory, VBT & CFT. Draw crystal field splitting patterns for tetrahedral and octahedral complexes and formation of low and high spin complexes. Explain the properties of complex compounds-colour, type of complex etc using CFT. <p>**** <i>Explain the importance of coordination compounds in our day to day life.</i></p>	<ul style="list-style-type: none"> Lab Activity Demonstration of Experiment (OLabs) <ul style="list-style-type: none"> To determine an anion and a cation present in the given salt samples. (Group 5 & 6 - Ba, Sr, Ca , Mg salts) Art Integration Activity (Colour Wheel Activity) Represent the concept of the formation of coloured compounds in the form of a colour wheel (2-D / 3-D) discussing the role of ligand in crystal field splitting and colour of complexes. 	<ul style="list-style-type: none"> Class Participation (Oral and Written) Weekly Assignment / Worksheet (Submission of work) Art Integration
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**** The sub topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.

MATH				
Month	No. of Periods/ topics covered	Learning outcome	Activities	Assessment

<p>July</p>	<p>Teaching days – 18/22 Chapter 7- Integrals</p> Chapter 8- Application of Integration	<p><u>Integrals</u> Each child will be able to *apply the method of substitution to solve problems of integration by using trigonometric identities *derive the solution of special integrals *apply the method of by parts and partial fractions to solve problems *perceive the concept of definite integral of a function ***** calculate definite integral as a limit of sum *apply the properties of *definite integrals in solving problems</p> <p><u>Application of Integration</u> *sketch the various standard curves *calculate the area bounded by the curves such as lines, ellipse, parabola, circle. ***** calculate area between any of the two above said curves</p>	<p>Solve Exercises from chapter 7 and 8 (NCERT)</p> <p>Solve assignment- Integration Application of Integrals</p> <p>Students will watch the relevant video at home</p> <p>https://www.khanacademy.org/math/ap-calculus-ab/ab-applications-of-integration-new/ab-8-4/v/area-between-curves-example?modal=1</p> <p>Formulae sheet ***** <u>Art Integration</u>-Finding and shading area between the curves.</p>  <p>***** Activity- Evaluate the definite Integral as limit of sum and verify by actual Integration</p>	<p>*Through small tests in fundamentals</p> <p>*Google form *Oral Questioning</p> <p>* Practice Paper</p> <p>Weekly Test</p> <p>Syllabus- Inverse Trigonometric Functions Continuity and Differentiability Application of Derivatives Indefinite Integration</p>
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<p>August</p>	<p>Teaching days: 16/20 Chapter 9- Differential Equations</p> <p>Chapter 1- Relations and Functions</p>	<p><u>Differential Equations</u> Each child will be able to *define a differential equation. Its order and degree *****form the differential equation whose general solution is given *solve the differential equation using the method of separating variables *define a homogenous differential equation *identify a linear differential equation *solve a linear differential equation *****$(dx/dy + Px=Q)$</p> <p><u>Relations and Functions</u></p> <p>*recall the definition of a function and relation *list the various types of relations *prove a relation to be an equivalence relation *evaluate the domain / range of given functions *****perceive the concept of composite functions</p> <p>*****evaluate the inverse of a function</p>	<p>Solve Exercises from chapter 9 and 1 (NCERT)</p> <p>Solve assignment- Differential Equations Relations and Functions</p> <p>Students will watch the relevant video in class</p> <p>https://www.youtube.com/watch?v=9w8VnZW8tg</p> <p>Experiential Learning- Students will demonstrate a function which is neither one one nor onto</p> <p>Art Integration: Various forms of functions</p> <p>Dancing Math:</p> 	<p>Through small tests in fundamentals Google Form</p> <p>Practice Paper</p> <p>Oral Questioning</p> <p>Weekly Test- 21/08/2020</p>
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PSYCHOLOGY

Month	Topics covered	Learning outcome	Activities	Assessments
July	<p>Chapter 2: Self and Personality</p> <ul style="list-style-type: none"> • Major approaches to the study of personality • Assessment of Personality <p>Chapter 6: Attitude and Social Cognition</p> <ul style="list-style-type: none"> • Explaining social behavior • Nature and components of attitude • Attitude formation and change • Prejudice and discrimination • Strategies for Handling prejudice • ****Social cognition • ****Schemas and stereotypes • ****Impression formation and explaining behavior of others through 	<p>Each student will be able to:</p> <ul style="list-style-type: none"> • Explain different approaches of personality • Describe the different techniques for assessing personality • Explain components of attitude • Describe formation of attitudes • State strategies for reducing prejudice • Describe the process of impression formation • Explain schemas • State different types of schemas • Explain social facilitation • Explain prosocial behaviour 	<ul style="list-style-type: none"> • Art Integration activity – Sketching to measure personality • Creating an advertisement (video) for any product based on the factors affecting attitude change. • Preparing a song/rap on removing prejudice and discrimination 	<ul style="list-style-type: none"> • Assignments • Practice Sheets • MCQ

	attributions <ul style="list-style-type: none"> • ****Behavior in the presence of others • ****Prosocial behavior 			
August	Chapter 7: Social Influences and Group processes <ul style="list-style-type: none"> • Nature and formation of groups • Type of groups • Influence of group on individual behavior • ****Conformity, compliance and obedience • ****Cooperation and competition • ****Social identity • ****Intergroup conflict • ****Conflict resolution strategies 	Each student will be able to : <ul style="list-style-type: none"> • Differentiate between group and team • Explain the different types of groups • State techniques of compliance • Describe the process of conformity • Explain obedience • State determinants of cooperation • Describe strategies to resolve conflicts 	<ul style="list-style-type: none"> • Identifying the differences in review comments of Indians and rival commentators for cricket matches. • Discussion on social identity • Identifying situations in which students apply techniques of compliance in everyday life 	<ul style="list-style-type: none"> • Assignments • Practice Sheets • MCQ • Assessment Round II on 21/08/20
September	****Chapter 8: Psychology and Life <ul style="list-style-type: none"> • Human-environment relationship • Environmental effects on human 	Each student will be able to : <ul style="list-style-type: none"> • Explain the relationship between humans and environment. • State the environmental effects on human behavior • Describe the influence of 	<ul style="list-style-type: none"> • Students will do photography to show environmental effects on human behaviour. • Identifying stages of formation from 'Chak-De India' movie. • Discussion on 'capital punishment' to assess 	<ul style="list-style-type: none"> • Assignments • Practice Sheets • MCQ

	behavior <ul style="list-style-type: none"> • Human influence on the environment <ul style="list-style-type: none"> -Noise -Pollution -Crowding - Natural disasters • Promoting pro-environmental behavior • Psychology and social concerns- <ul style="list-style-type: none"> -Poverty and Discrimination - Aggression, Violence and Peace - Health - Impact of television on behaviour 	noise on performance <ul style="list-style-type: none"> • State ways to control pollution • Explain Post Traumatic Stress Disorder • Explain remedies for poverty and discrimination • State the impact of television on behaviour. 	polarization.	
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**** Topics marked with asterisk have been deleted by CBSE for the academic year 2020-21. However, these topics would be covered in class through discussions to bridge the learning gaps.

ECONOMICS

Month	Topics covered	Learning outcome	Activities	Assessments
July 2020	Determination of Income and employment. (18)	Each student will be able to: <ul style="list-style-type: none"> • Understand the tenets of Keynesian Economics and 	<ul style="list-style-type: none"> • From the newspaper articles keep a record of inflation rate and changes in different monetary 	<ul style="list-style-type: none"> • Worksheets • Online Quiz/MCQs'

		<p>apply the tenets through the aggregate demand and supply model</p> <ul style="list-style-type: none"> • Identify the Keynesian portion of the AS curve and explain the logic for it. • Identify the concept of Aggregate demand and state its 4 components. • Derive the consumption and savings from Income Y=C+S • Determine the short run fixed price in product market equilibrium, output, investment. • Investment Multiplier and its working • Deficient demand and Excess demand • Measures to combat the changes in equilibrium and output. • Graphically explain inflationary and deflationary gaps. • Explain Fiscal and monetary measures to correct the disequilibrium. 	<p>instruments time to time by the RBI.</p>	<ul style="list-style-type: none"> • HOTS questions
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<p>August 2020</p>	<p><u>ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (8)</u></p>	<p>Each student will be able to:</p> <ul style="list-style-type: none"> • Discuss 4 points to Current Scenario of pollution and its effect on Indian farmers. • Discuss 5 points to Pollution in India • Find 4 solutions to the problems <p>understand the concept of environment • analyse the causes and effects of 'environmental degradation' and 'resource depletion' • understand the nature of environmental challenges facing India • relate environmental issues to the larger context of sustainable development.</p>	<ul style="list-style-type: none"> • Song or Lyrics allow students to showcase talent and simultaneously learn content is through preparing songs and lyrics. • Visit a nearby factory/irrigation department and collect the details of measures that they adopt to control water and air pollution. • You might be seeing advertisements in newspapers, radio and television or billboards in your locality on awareness programmes relating to water and air pollution. • Collect a few news-clippings, pamphlets and other information and discuss them in the classroom. • Make a list of items that can be recycled. 	<ul style="list-style-type: none"> • Worksheets • Online Quiz/MCQs' • HOTS questions
	<p>INFRASTRUCTURE (9)</p>	<p>Each student will be able to:</p> <ul style="list-style-type: none"> • Understand the main challenges India faces in the areas of social and economic infrastructure . • know the role of infrastructure in economic development. 	<ul style="list-style-type: none"> • In your locality or neighbourhood you might be using a variety of infrastructure. List all of them. Your locality may also be requiring a few more. List them separately. • While reading newspapers you will come across terms like Bharat 	<ul style="list-style-type: none"> • Worksheets • Online Quiz/MCQs' • HOTS questions

		<ul style="list-style-type: none"> • Understand the role of energy as a critical component of infrastructure. **** • Understand the problems and prospects of the energy **** • Understand the problems and prospects of the health sector. • Understand the health infrastructure of India. 	<p>nirman, Special Purpose Vehicle (SPV), Special Economic Zones (SEZ), Build Operate Transfer (BOT), Private Public Partnership (PPP)etc. Make a scrapbook of news items containing these terms. How are these terms related to infrastructure?</p> <ul style="list-style-type: none"> • Among other sources of energy, you would have noticed that a marginal share of energy comes from nuclear power. Why? • Scholars point out that with rising oil and coal costs, nuclear power is the best option. Discuss or debate in your class. $\frac{3}{4}$ Solar energy, wind power and power produced from tides are going to be future sources of energy. What are their comparative merits and demerits? Discuss in the class. • Can you suggest such other ideas to use non-conventional energy in a better way. • What kind of energy do you use in your house? Find out from your parents the amount they spend in a month on different types of energy. 	
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			<ul style="list-style-type: none"> You might notice people using variety of methods to save electricity and other energy. For instance, while using the gas stove, some suggestions are made by gas agencies for using the gas efficiently and economically. Discuss them with your parents and the elderly, note down the points and discuss them in class. Role play on medical tourism 	
September 2020	BALANCE of PAYMENTS and FOREIGN EXCHANGE. (8)	<p>Each student will be able to:</p> <ul style="list-style-type: none"> Explain the need of conducting economic transactions with the rest of the world using foreign exchange. Define foreign exchange Understand Balance of Payments Compare the determination of price by each sale and purchase of forex.**** Determine the rate of exchange**** Explain the market forces of demand and supply of foreign exchange.**** 	<ul style="list-style-type: none"> Compare the forex rates every week for dollar, pound sterling, euro with Indian rupee to analyse the appreciation or depreciation of Indian currency. 	<ul style="list-style-type: none"> Worksheets Online Quiz/MCQs' HOTS questions <p>Assessment 2- 4/9/20</p>

		<ul style="list-style-type: none"> • Give reasons for the fluctuations in foreign exchange**** • Discuss the disequilibrium in the BOP due to Covid-19 		
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps			

COMPUTER SCIENCE					
JULY	Unit III: Database Management Database Concepts: General database Concepts Revision Interface of Python with an SQL database - Connecting SQL with Python - Creating Database connectivity Applications - Performing Insert, Update, Delete queries - Display data by using fetchone(),fetchall(),rowcount (18)	Students will be able to : ➤ Create interface of Python with an SQL database ➤ Connect SQL with Python ➤ Create Database connectivity Applications - Perform Insert, Update, Delete queries ➤ Display data by using fetchone(),fetchall(), rowcount ➤ Apply aggregate functions in queries ➤ Integrate SQL with Python by importing the MySQL module	Worksheets & Lab Assignments Design a webpage for Python SQL integration codes	Class Tests on Database Management MCQs	

<p>AUGUST</p>	<p>Unit II: Computer Networks</p> <ul style="list-style-type: none"> ● Evolution of Networking: ARPANET, Internet, Interspace Different ways of sending data across the network with reference to switching techniques (Circuit and Packet switching). ● Data Communication terminologies: Concept of Channel, Bandwidth (Hz, KHz, MHz) and Data transfer rate (bps, Kbps, Mbps, Gbps, Tbps). ● Transmission media: Twisted pair cable, coaxial cable, optical fiber, infrared, radio link, microwave link and satellite link. ● Network devices: Modem, RJ45 connector, Ethernet Card, Router, Switch, Gateway, WiFi card. ● Network Topologies and types: Bus, Star, Tree, PAN, LAN, WAN, MAN. ● Network Protocol: TCP/IP, File Transfer Protocol (FTP), PPP, HTTP, SMTP, POP3, Remote Login (Telnet) and Internet, Wireless / Mobile Communication protocol such as GSM, GPRS and 	<p>Students will come to know about various types of networks/ topologies prevalent in today's world.</p> <ul style="list-style-type: none"> ➤ will be able to distinguish among different communications medias. ➤ will be able to state advantages and disadvantages of various data switching techniques used in networks. ➤ will be able to state steps of setting up a communication network for a company. ➤ will come to know about various security measures used on computer network. ➤ will come to know about different Network Models ➤ will be able to differentiate among different Network Models. ➤ will be able to differentiate among different mobile computing technologies ➤ will be able to identity and appreciate purpose of different networking protocols and also differentiate among different protocols 	<p>Worksheets & Lab Assignments</p> <p>Comic strip - Violation of IPRs Brochure Designing-Networking Terms</p>	<p>MCQS</p> <p>Unit Test-2</p> <p>1 Database Management System – 20 2.Lab Test – 15 Total 35</p>
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	<p>WLL.</p> <ul style="list-style-type: none"> ● Mobile Telecommunication Technologies: 1G, 2G, 3G, 4G and 5G; Mobile processors; Electronic mail protocols such as SMTP, POP3, Protocols for Chat and Video Conferencing: VoIP, Wireless technologies such as Wi-Fi and WiMax ● Network Security Concepts: Threats and prevention from Viruses, Worms, Trojan horse, Spams Use of Cookies, Protection using Firewall, https; India IT Act, Cyber Law, Cyber Crimes, IPR issues, hacking. ● Introduction To Web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML); Hyper Text Transfer Protocol (HTTP); Domain Names; URL; Website, Web browser, Web Servers; Web Hosting, Web Scripting – ***** Client side (VB Script, Java Script, PHP) and Server side (ASP, JSP, PHP), Web 2.0 (for social networking) 	<ul style="list-style-type: none"> ➤ will be able to appreciate the importance of IPR and Cyber laws, Indian IT act 2000 ➤ will be able to state importance of Intellectual property rights, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. Privacy laws, Cyber forensics, IT Act, 2000. ➤ Technology and society: understanding of societal issues and cultural changes induced by technology. ➤ Students will be able to state importance of E-waste management: proper disposal of used electronic gadgets. ***** ➤ Identity theft, unique ids, and biometrics. 		
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	<p>***** ● E-commerce payment transactions using online banking, mobile banking, payment apps and services.(15)</p>			
September/Oct/NOV	Revision			
*****	<p>The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.</p>			

BIOLOGY

MONTH	NO. OF PERIODS/TOPICS COVERED	LEARNING OUTCOMES	ACTIVITIES	ASSESSMENT
July	Evolution (3) ****	<p>Each student will be able to</p> <ul style="list-style-type: none"> • explain mechanism of evolution • compare mutation theory of Hugo de Vries and Darwin's theory of natural selection • state Hardy- Weinberg principle • giving three reasons as to how Hardy-Weinberg equilibrium can be affected. • list the steps of origin and evolution of man 	<ul style="list-style-type: none"> • Diagrammatic representation of the operation of natural selection on different traits • Sketch of the evolution of plant forms through geological periods • Representative evolutionary history of vertebrates through geological periods • Comparison of the skulls of adult modern human being, baby chimpanzee and adult chimpanzee 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work)
	Human Health and Disease (7)	<p>Each student will be able to</p> <ul style="list-style-type: none"> • state any two factors which affect the health 	<ul style="list-style-type: none"> • Diagrammatic representation of the stages in the life cycle of Plasmodium • Identification of the diseases 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral)

		<ul style="list-style-type: none"> • mention the symptoms, preventive measures and cure of two common diseases • explain the life cycle of malarial parasite in human body • list the four types of barriers in innate immunity • differentiate between innate and acquired immunity as well as active and passive immunity • compare the role of B and T lymphocytes • state the role of spleen and thymus in human body • list three ways of transmission of HIV infection • mention the events which occur in human body to cause 	<p>from their symptoms</p> <ul style="list-style-type: none"> • Drawing structure of an antibody molecule • Making a flow chart to show the steps of replication of retrovirus • Identification of a drug from its chemical structure and its effects in the human body • Demonstration of experiment (OLABS) Preparation of a temporary mount to observe pollen germination Common disease-causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through virtual images. Comment on symptoms of diseases that they cause <p style="text-align: center;"><u>Art Integration</u></p> <p style="text-align: center;">Design a 'Flyer'</p> <p>Each student will design a flyer on the precautionary measures to be taken in order to avoid the</p>	<ul style="list-style-type: none"> • Weekly assignment/worksheet (submission of work) • Art integrated learning
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		<p>immunodeficiency, when HIV gains entry into the body</p> <ul style="list-style-type: none"> describe the causes of cancer and its treatment list the drug types and their effects 	spread of COVID-19	
	<p><i>Strategies for Enhancement in Food Production (2) ****</i></p>	<p><i>Each student will be able to</i></p> <ul style="list-style-type: none"> <i>explain in brief the role of animal husbandry in human welfare</i> <i>mention the advantage and disadvantage of inbreeding</i> <i>state three outbreeding practices in domestic animals</i> <i>describe the role of bee-keeping and fishery in enhancement of food production</i> <i>list the main steps in breeding a new genetic variety of a crop</i> 	<ul style="list-style-type: none"> <i>Making a mind map on animal husbandry</i> <i>Identification of a crop variety from its resistance to diseases or insect pests</i> Demonstration of experiment (OLABS) <i>Study the presence of suspended particulate matter in air</i> 	<ul style="list-style-type: none"> <i>Online quiz using Google forms</i> <i>Class participation (written and oral)</i> <i>Weekly assignment/worksheet (submission of work)</i>

		<ul style="list-style-type: none"> • <i>state four objectives of biofortification.</i> • <i>mention the economic value of spirulina</i> • <i>list the various steps in tissue culture</i> • <i>state the advantage of producing plants by micro-propagation</i> • <i>compare somaclones and somatic hybrids</i> 		
	Microbes in Human Welfare (6)	<p>Each student will be able to</p> <ul style="list-style-type: none"> • name the different types of microbes • explain the role of microbes in household and industrial products • describe the importance of microbes in sewage treatment and in production of biogas • mention the usefulness of microbes as biocontrol agents and 	<ul style="list-style-type: none"> • Making a flow chart to depict the role of microbes in human welfare • Identification of different types of microbes from their pictures • Diagrammatic representation of a typical biogas plant • Demonstration of experiment (OLABS) Study of pH, clarity and presence of any living organism in water Study soil for texture, 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work)

		as biofertilizers	moisture content, pH and water holding capacity.	
August	Biotechnology: Principles and Processes (8)	<p>Each student will be able to</p> <ul style="list-style-type: none"> • explain biotechnology • mention two core techniques that enabled the birth of biotechnology • state three basic steps in genetically modifying an organism • list three key tools of recombinant DNA technology • explain the naming and mechanism of action of restriction enzymes • compare the role of exonuclease and endonuclease • name two cloning vectors that are used in experiment with E. coli • state two uses of 	<ul style="list-style-type: none"> • Diagrammatic representation of recombinant DNA technology • Drawing E. coli cloning vector pBR322 • Diagrammatic representation of steps of polymerase chain reaction (PCR) • Comparison of simple stirred-tank bioreactor and sparged stirred-tank bioreactor with the help of their diagrams • Demonstration of experiment (OLABS) Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness Isolate DNA from available plant material such as spinach, green pea seeds, papaya 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work)

		<p>cloning vector in biotechnology</p> <ul style="list-style-type: none"> • list the steps involved in rDNA technology • describe a technique to obtain multiple copies of a gene in vitro • mention the role of bioreactors 		
	<p>Biotechnology and its Applications (7)</p>	<p>Each student will be able to</p> <ul style="list-style-type: none"> • describe biotechnological applications in agriculture and medicine • list any four applications of genetically modified plants • name the cry genes that control cotton bollworm and corn borer • explain the process involved in the production of nematode resistant tobacco plants 	<ul style="list-style-type: none"> • Diagrammatic representation of maturation of pro-insulin into insulin • Demonstration of experiment (OLABS) Study the effect of temperature and pH on the activity of salivary amylase on starch. Study of T.S. of blastula (Mammalian) Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work)

		<ul style="list-style-type: none"> • compare the insulin produced by Eli Lilly and the one produced by human body • describe the gene therapy procedure for ADA deficient patient • list four ways in which transgenic animals can be beneficial to humans • explain biopiracy and ethical issues 		
September	Organisms and Populations (8)	<p>Each student will be able to</p> <ul style="list-style-type: none"> • list any four abiotic components that lead to variations in the physical and chemical conditions of habitats • mention the different ways by which organisms cope or manage with abiotic stresses in nature • give reason as to why there are more 	<ul style="list-style-type: none"> • Identification of major biomes of India from their pictures • Diagrammatic representation of organismic response • Construction of age pyramids for human population (expanding, stable and declining) • Comparison of exponential growth and logistic growth with the help of population growth curve 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work) • Art integrated learning • Assessment- 2 (04/09/2020)

		<p>conformers than regulators in the animal world</p> <ul style="list-style-type: none"> • give any two examples of adaptations of animals • state three attributes of population • construct age pyramids showing expanding, stable and declining human population • describe the population growth and its factors • explain Verhulst-Pearl Logistic Growth of a population • list any four population interactions and give one example of each 	<ul style="list-style-type: none"> • Identification of population interactions from the symbols and pictures shown • Demonstration of experiment (OLABS) Study of mitosis in onion root tip Study of meiosis in onion bud cell or grasshopper testis <p style="text-align: center;"><u>Art Integration</u></p> <p style="text-align: center;">‘PowerPoint Presentation’</p> <p style="text-align: center;">Each student will make a power point presentation on the various population interactions existing in nature</p>	
	<p><i>Ecosystem (2) ****</i></p>	<p><i>Each student will be able to</i></p> <ul style="list-style-type: none"> • <i>describe the components of ecosystem</i> 	<ul style="list-style-type: none"> • <i>Diagrammatic representation of decomposition cycle in a terrestrial ecosystem</i> • <i>Diagrammatic representation</i> 	<ul style="list-style-type: none"> • <i>Online quiz using Google forms</i> • <i>Class participation</i>

		<ul style="list-style-type: none"> • mention any two reasons why the primary productivity varies in different types of ecosystems • differentiate between net primary productivity and gross primary productivity • explain decomposition of detritus by different agents which is then made available as nutrients to the plants • give one example each of a detrivore and a decomposer • list three parameters used for constructing ecological pyramid • construct pyramids of numbers, biomass and energy • compare two different types of pyramids of 	<p>of trophic levels in an ecosystem and the energy flow through them</p> <ul style="list-style-type: none"> • Construction of three types of ecological pyramids (pyramids of numbers, biomass and energy) • Diagrammatic representation of primary succession • Drawing simplified model of carbon cycle and phosphorous cycle • Demonstration of experiment (OLABS) Study of plant population density by quadrat method Study the plant population frequency by quadrat method 	<p>(written and oral)</p> <ul style="list-style-type: none"> • Weekly assignment/worksheet (submission of work)
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		<p><i>biomass with the help of an example</i></p> <ul style="list-style-type: none"> • <i>mention the role of pioneer species in primary succession on rocks</i> • <i>distinguish between primary and secondary ecological successions</i> • <i>mention important features of sedimentary cycle</i> • <i>draw simplified model of carbon cycle and phosphorus cycle</i> 		
	<p>Biodiversity and Conservation (8)</p>	<p>Each student will be able to:</p> <ul style="list-style-type: none"> • mention three important components of biodiversity • explain the importance of biodiversity for ecosystem functioning • state two effects of loss of biodiversity in a region 	<ul style="list-style-type: none"> • Making pie chart representing global biodiversity: proportionate number of species of major taxa of plants, invertebrates and vertebrates • Plotting graph showing species area relationship • Examining the destruction of Amazon forest through Google Earth tool 	<ul style="list-style-type: none"> • Online quiz using Google forms • Class participation (written and oral) • Weekly assignment/worksheet (submission of work)

		<ul style="list-style-type: none"> • describe the causes of biodiversity loss • give reason as to why biodiversity should be conserved • compare in situ and ex situ conservation of biodiversity 	<ul style="list-style-type: none"> • Demonstration of experiment (OLABS) Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations. 	
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.			

PHYSICAL EDUCATION

Month	Topics/ No. of Periods	Learning Outcomes	Activities	Assessment
JULY	<p><u>Test & Measurement in Sports</u> (W-)</p> <ul style="list-style-type: none"> • Introduction • Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit & Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4x10 M Shuttle Run • General Motor Fitness – Barrow three item general motor ability (Standing Broad Jump, Zig Zag Run, Medicine Ball Put) **** • Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test • Computation of Fitness Index: Duration of the ex. in sec. X 100 	<p>Each students will be able to:</p> <p>Explain AAHPER. Know the meaning of Motor fitness. Students will know about six Rikli & Jones - Senior Citizen Fitness Test.</p>	<p>Collect data from at least 2 family members for</p> <p>Discussion on Barrow three item general motor ability test</p> <p>Students to discuss the textual based questions</p>	<p>Questions will be discussed in class. MCQ'S</p> <p>MCQ'S & Questions for home assignment</p>

	<ul style="list-style-type: none"> 5.5 x pulse count of 1- 1.5 Rikli & Jones - Senior Citizen Fitness Test. 			
JULY	<p><u>Physiology and Injuries in Sports</u></p> <ul style="list-style-type: none"> Physiological factor determining component of Physical Fitness Effect of exercise on Cardio Respiratory System Effect of exercise on Muscular System Physiological changes due to ageing**** Sports injuries: Classification (Soft Tissue Injuries:(Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes & Prevention 	<p>Each students will be able to</p> <p>Explain the Physiological Determinants of Strength, Speed, Endurance & Flexibility.</p> <p>Students will know the Immediate and Long-term effects of Cardio Respiratory system.</p> <p>Know about the physiological changes due to ageing and about First Aid</p>	<p>Discussion on various sports injuries (Soft Tissue Injuries, Bone & Joint Injuries)</p> <p>Discussion on Effect of exercise on Muscular System and about the Physiological changes that happen due to ageing</p> <p>Students to discuss the textual based questions</p>	<p>Questions will be discussed in class. MCQ'S</p> <p>MCQ'S & Questions for home assignment</p>

	<ul style="list-style-type: none"> • First Aid – Aims, treatment & Objectives 			
Month	Topics/ No. of Periods	Learning Outcomes	Activities	Assessment
AUGUST	<p><u>Biomechanics & Sports</u></p> <ul style="list-style-type: none"> • Meaning and Importance of Biomechanics in Sports • Types of movements (Flexion, Extension, Abduction & Adduction) • Newton's Law of Motion & its application in sports • Friction & Sports**** 	<p>Each students will be able to:</p> <p>Explain about Biomechanics in sports</p> <p>Know about the types of movements of a joint</p> <p>Understand Friction & Sports</p>	<p>Discussion on Flexion, Extension, Abduction & Adduction</p> <p>Discussion on Newton's Law of Motion & its application in sports</p> <p>Students to discuss the textual based questions</p>	<p>Questions will be discussed in class.</p> <p>MCQ'S</p> <p>MCQ'S & Questions for home assignment</p>
AUGUST	<ul style="list-style-type: none"> • <u>Psychology & Sports</u> <p>Personality; its definition & types – Trait & Types (Sheldon & Jung Classification) & Big Five Theory</p> <ul style="list-style-type: none"> • Motivation, its type & techniques • Exercise Adherence; Reasons to Exercise, Benefits of Exercise**** • Strategies for Enhancing 	<p>Each students will be able to</p> <p>Explain Personality; its definition & types</p> <p>Students will know the Meaning, Concept & Types of aggression in sports</p> <p>Know about Exercise Adherence, reasons and benefits of Exercise</p>	<p>Discussion on Trait & Types (Sheldon & Jung Classification) & Big Five Theory</p> <p>Discussion on Motivation, its type & techniques</p> <p>Students to discuss the textual based questions</p>	<p>Questions will be discussed in class.</p> <p>MCQ'S</p> <p>MCQ'S & Questions for home assignment</p>

	Adherence to Exercise**** <ul style="list-style-type: none">• Meaning, Concept & Types of Aggressions in Sports			
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.			