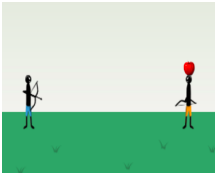**TAGORE INTERNATIONAL SCHOOL**
VASANT VIHAR, NEW DELHI
SYLLABUS (2021-2022)
CLASS: XI C & D
June- March

JUNE				
Subject	**Topics Covered & No. of Classes**	**Learning Outcome**	**Activities**	**Assessments**
Mathematics	**Sets**	**Each student will be able to** *define the term set. *represent a set in roaster and set-builder form. *list the various types of sets. *define equal sets. *define a subset. *define a power set. *define a universal set. *explain the various operations on sets i.e and *solve practical problems on union and intersection of 2/ 3sets *understand the concept of Venn diagrams. *apply the concept of Venn	(LA) Discussion on the Video seen on Sets and its representation seen at home. Quiz based on Venn Diagram Concept. Questions from Assignment on Sets will be discussed. Asking students to form sets related to things around them (EL) To verify distributive law for three given non-empty sets A, B and C (ACTIVITY)	• HW given from NCERT & Assignment(uploaded in Google Classroom) • Oral Questions • Google Form • Short Test

	Relations & Functions	diagrams in solving statement questions. **Each student will be able to** *define the Cartesian product of sets. *find the number of elements in a Cartesian product. *define a relation. *describe a relation in roaster, set-builder, arrow diagram form. *find the domain and range of relation. *define a function. *find the domain/range of function. *list the various types of function. *draw the graphs of various functions.	Folk Art with a Covid twist (AIL) (LA) Discussion on the Video seen at home. Questions from Assignment on Relation and Function will be discussed. Connect to the concept of relations to human relations in Covid-19 outbreak. To verify that for two sets A and B, n(AxB)= pq and the total number of relations from A to B is 2pq , where n(A)= p and n(B)=q (ACTIVITY) A video on the Indian Dance form Kuchipudi depicting the graphs of various functions in different postures of this dance form. (AIL) To distinguish between a Relation and a Function (ACTIVITY)	● HW given from NCERT & Assignment (uploaded in Google Classroom) ● Oral Questions. ● Google Form ● KWL Chart ● Diksha Practice Work https://diksha.gov.in/cbse/play/content/do_31308876550619955 21919?contentType=PracticeQuestionSet

English	Prose – **The Summer of the Beautiful White Horse**	**Each student will be able to** Write the answers correctly. Understand the concept of integrity and truthfulness.	Watch the link: https://paperap.com/paper-on-essay-summer-beautiful-white-horse/ The text: The Summer of the Beautiful White Horse Read and analyze the characters of Aram and Mourad.	Assignment Worksheet Classwork and Homework shared in the Google classroom.
	The Address	Each student will be able to: State the cruelty of and futility of war. Understand and list the nuances of the characters. Write the answers correctly.	https://youtu.be/zLSNh-LwJrl Identifying the setting and relevance of the story. Identify the central Theme and narrative voice.	
	WritingSkill: **Poster,** **Grammar worksheets on determiners**	Understand the grammar rules and apply them correctly.	DIKSHA Portal Presentation Discussion CBSE questions	
	Article writing	Write an article with appropriate format and content.		

		Analyse the content.		
Physics	**Introduction to trigonometry Plotting graphs for different functions.** **Introduction to Differentiation and Integration** **Unit and measurement** · System of units · Measurement of length · Measurement of mass · Measurement of time · Accuracy, precision · Significant figures · Errors in measurement, Propagation of errors · Dimensions · Dimensional analysis and its application	**Each student will be able to** Identify types of fundamental units · Distinguish between fundamental and derived quantities and units · Able to use parallax method to find distance and size of distant object · Differentiate between precision and accuracy · Find the number of significant figures in the given measurement. · Find errors in the given measured value. · Find errors in various mathematical operations. · List the differences between scalars and vectors · Differentiate between path length and displacement · Differentiate between average and instantaneous velocity · Explain acceleration and its effect on motion	Online game to test accuracy and precision. Accuracy test **Art Integration: Paper Folding-Origami** Make a paper plane and a paper boat using an A4 sheet and note the time and distance travelled by each in air and water respectively. 	· Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi **LIVE WORKSHEET:** https://www.liveworksheets.com/worksheets/en/Physics/Forces_and_motion/Motion_Graphs_uj270322mf

	Motion in a straight line · Scalar and vectors · Path length and displacement · Average velocity and average speed · Acceleration · Kinematic equations for motion · Graph for one dimensional motion	· Derive the equations of motion - Graphically and using calculus · Interpret the velocity-time graph · Solve numerical problems based on equations of motion, relative velocity and graphs.		
Chemistry	● Bridge course - Periodic trends Configuration **Classification of elements** ● Modern periodic table. ● Features of modern periodic table ● Physical trends along the period and within group ● Graphical representation ● Diagonal relationship of elements.	**Each student will be able to** ● Previous knowledge ● State modern periodic law. ● Outline salient features of modern periodic table ● Explain the terms like atomic size, ionisation enthalpy, electron gain enthalpy and electronegativity ● Compare the variation in properties of elements along the period and within the group. ● Analyse trends from the graph. ● Identify isoelectronic species and arrange in order of increasing/decreasing size	**Art integration:** Advertisement on an element—poster / remodelling of the periodic table. **Practical-** Aim: Analyse given salt for the cation and anion. Write the result in tabular form. **Activity (integrated with biology)** ● Table on sources, daily requirements, functions and deficiency symptoms of salts in group 1 and 2.	● Oral questions using AMP. ● Worksheet on periodic properties. ● Quiz

		● Justify exceptions with reasons. ● Reason the different behaviour of Li and Be from the rest of the group. **Each student will be able to** ● List the general electronic configuration of s block. ● Appreciate the close similarity in the properties of elements of groups in spite of being different. ● Interpret the general characteristics of the alkali metals and their Compounds. ● Correlate the chemical characteristics of the alkaline earth metals and their compounds with the alkali metal group. ● Predict the products and nature of compounds formed on reaction with NH3 ● Define diagonal relationship	● Art integration: Colour wheel showing flame colour of Gp 1 and 2 elements	● Assignment on google docs. ● MCQ using google forms. ● Class test online. ● One minute paper (three things that you would like to remember from the lesson ● Questions from ncert
	S-block elements ● Introduction and General electronic configuration ● Group trends ● Atomic size, ionic size, ionisation enthalpy, ● Electron affinity metallic character ● Flame coloration ● Chemical properties Reaction with H2,O2,X2,NH3,HX ● Diagonal relationship			
Computer Science	**Unit 1: Computer Systems and Organization** (CSO) :	**Students will be able to** ● Define the basic structure of a	**Learning Activity:** ● Worksheet based on	● Worksheets ● Assignments

	IPO, Storage Units, Mobile System Organization, Types of software	computer machine ● Calculate and convert memory from one unit to another. ● Differentiate between the types of software ● Differentiate between the types of OS.	topics covered in the class ● Students shall present the types of software and operating systems through the presentations created.(Flipped Classroom)	● Class tests ● Programs created in the classes
	Programming and Computational Thinking (PCT-1) ● Familiarization with the basics of Python ● Script and interactive modes ● Python Character Sets ● Data Handling ● Mutable and Immutable types ● Introduction to Python Programming	**Students will be able to** ● Work on Python command line and Python IDLE ● Differentiate and categorize python tokens (keywords, identifiers, punctuators) ● Create variable s / define variables and manipulate variables ● Define the differences between static and dynamic typing ● Differentiate between various types of data and perform data handling in Python.	Write code for designing an application to receive marks of a student and print the percentage	
Economics	**Micro Economics** Introduction to micro and macro economics, Economic problems, basic	**Each student will be able to** Categorize different activities in an economy as economic or noneconomic activity. Interrelate micro and macro concepts.	**Quiz for Assessment.** Create a utility analysis if you had a choice to eat unlimited burgers-classroom activity https://frbatlanta.org	HW from NCERTn& Assignment (uploaded in Google Classroom)

			/education/publications/extra credit/2015/fall/lessons-andactivities/highschool/microeconomics/ supply-and demand-activity-activity sheet To make a list of economic and non-economic activities. http://teacherlink.ed.usu.edu/tlresources/units/byrnes-literature/LBREEDER/lesson3.html	Oral Questions Short test Class Work
problems, concepts of utility and indifference. Demand-factors, law of demand, changes in demand and changes in factors affecting demand, elasticity of demand, numericals.		Analyse changes that happen when price in the market changes and how the consumer's behaviour changes keeping income given. Identify the concept of Demand Analyse the factors affecting Demand. Represent the movements and Shifts in demand curve diagrammatically Analyse the factors affecting demand Numerical Practice		
Psychology	**Ch. 1-What is Psychology?** ● What is psychology? ● What are the branches of psychology? ● Where can psychology be applied?	**Each student will be able to** ● Define and conceptualize the term psychology ● Understand the historical development of the field ● Acquaint themselves with branches of psychology, themes of research and application	● Presentation ● Videos ● Group Discussion	● Homework questions ● Assignments ● Google jamboards ● Art Illustrations

	Ch.2-Methods of Enquiry in Psychology ● What is data in psychology? ● What are methods of investigating psychological matter? ● Introduction to methods ● Advantage and limitations of data analysis	● Know the relationship between psychology and other disciplines **Each student will be able to** ● Understand the goals of psychological enquiry ● Understand the methods used in acquiring psychological data ● Data analysis Know the limitations of psychological enquiry and ethical issues	● Presentation ● Videos ● Case Studies ● Group Discussion	● Essay based questions ● Group Presentations
Biology	**Cell :** (8 classes) ● What is a cell? ● Cell Theory, an overview of cell,prokaryotic and eukaryotic cells.	**Each student will be able to** ● Explain the different shapes of the cells. ● Describe the different organelles of cell and their structure and function. ● List five differences between prokaryotic cell and eukaryotic cell. ● Draw a well labeled diagram of cell Organelles.	https://www.khanacademy.org/science/biology/structure-of-a-cell -cell organization Watch the video for answering the questions. ● Label the given prokaryotic cell and list the function of each part. ● Draw the labeled diagrams of cell organelle of eukaryotic cells. ● Compare plant cells	● Class test. ● Questions from the exemplar. ● In text questions & ● Draw the stages of mitosis and label each diagram

	Biomolecules (8 classes) ● Chemical composition, primary and secondary metabolites, carbohydrates, proteins and fats, enzymes ● their functions, ● Cofactors.	● Describe the structure and types of proteins, Nucleic acids, carbohydrates and Lipids ● Explain the functions of enzymes and their factors. ● State cofactors and write their significance in working of Enzymes.	and animal cells. ● Differentiate prokaryotic cell from eukaryotic cell. ● Draw biomolecules studied by you. ● Specify the bonds between monomers of each macromolecule studied by you. Make flow chart on the biomolecules listing the functions of each **Experiential learning** Do you think any

			Biomolecule has been put to use in the above shown advertisement? Justify your answer with a suitable explanation. **Research activity** Collect information about discovery of biomolecules studied by you. **AIL**- depict a cartoon strip selecting any of the biomolecules
	Cell cycle: - (6 classes) ● Cell cycle, M phase, mitosis, meiosis, ● significance of mitosis, meiosis	● Differentiate between Mitosis ● and Meiosis. ● What is the significance of ● Mitosis and Meiosis? ● Draw a well labeled diagram of different stages of Mitosis and Meiosis.	● Identify the stages of cell cycle on the basis of features given. Pinterest worksheet ● for labeling & stages of mitosis Is the rate of cell division uniform all over the living world? Justify giving examples from the living world.

			● Find out the example from the living world where cell division is fastest & the example of organism where the cell division is unequal and share the information in the class. **Lab activity**- Study the stages of mitosis using permanent slides.	

JULY

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**Trigonometric Functions**	**Each student will be able to** *recall the relation between degree and radian. *define one radian. *define a periodic function. * relate trigonometric functions as circular functions. *find the trigonometric ratio over the domain R *list the trigonometric formulae of sum and difference of two	Questions from Assignment on Trigonometry will be discussed. Students will find the condition for the existence of inverse of a function and hence find if the inverse of all trigonometric functions exist or not ?(EL) To plot graphs of sinx, sin2x, 2sinx and sinx/2 (ACTIVITY)	● HW from NCERT & Assignment (uploaded in Google Classroom) ● Oral Questions ● Short test ● Class Work

		angles.
		*state the C/D and product
		  formulas.
		*state the half angle formulas.
		*apply the various formulae in
		  solving questions.
		*recall the graphs of various
		  trigonometric functions.
		*define a trigonometric equation.
		*define principle & general
		  solutions of a trigonometric
		  equation.
		*differentiate between the
		  general and principal solutions.
		*solve the given trigonometric
		  equations.
			Trigonometry in Jantar Mantar (AIL)	

	Limits & Derivatives	**Each student will be able to**
		
		* explain the approaching
		  concept on the number line.
		*define the limit of a function at a point.
		*perceive the geometrical
		  interpretation of limits.
		*list the various formulae of limits.
		*evaluate the limit of algebraic
		  functions using substitution.
		  and rationalization methods.
		* evaluate trigonometric limits
		  using various formulae.
			(LA)
			Discussion on Video seen at home.
			
			Solved examples of NCERT read by students at home will help in further solving questions from Exercises.
			
			Questions from Assignment on Limits and Derivatives will be discussed.
				● HW from NCERT & Assignment (uploaded in Google Classroom)
				● Oral Questions
				● Short Test
				● Google Form
				● Class Work

English	Prose:	Each student will be able to	Discussion : The relationship with grandparents.How is it different from that of their relationship with their parents.	Assignment
	The Portrait of a Lady	Analyse the character of the grandmother.		Worksheet
		Analyse the relationship between the grandmother and the grandson.		Classwork and Homework shared in the google classroom.
	A Photograph	List the literary devices used in the poem.	Students will be instructed to find the voice who narrates the poem.	
			Discussion CBSE questions.	
	Letter to the Editor	Apply the rules of the format while writing the answers.	Discussion CBSE questions.	
	We're not Afraid to Die	Write the answers correctly and meaningfully.	PPT	
Physics	·Relative velocity	Each student will be able to	Introduction to rube Goldberg Machine:	· Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi
	Motion in a plane	. Draw the resultant vector of two vectors.	https://www.youtube.com/watch?v=KjwZ0NKzeUY	
	· Scalars and vectors · Properties of vectors · Addition and subtraction of vectors · Resolution of vectors	· Resolve a given vector in its components · Find acceleration, velocity, displacement for motion in two dimensions.	Go ahead and build one! Your machine should include motion	**LIVE WORKSHEET:** https://www.liveworksheets.com/nd1287590ps

	· Motion in a plane · Relative velocity · Projectile motion · Uniform circular motion **Laws of motion** · Newton's laws of motion · Equilibrium of a particle · Friction · circular motion · Banking of tracks	· Vectorially depict relative velocity · explain projectile motion. · Derive the expression for the height attains and the range of a projectile · explain banking of roads · Find expression for force, acceleration and velocity of object in circular motion · State three equations of motion. · Write an equation of motion in vector form. · Apply equations to solve numerical problems. · Draw a free body diagram to evaluate equilibrium of a particle. · Able to solve for different type of forces acting on a given object · Define friction · Write laws of friction · Explain utility of friction · Explain ways to increase and decrease friction · Draw a free body diagram for cyclists negotiating the turn.	in 1-D, motion in a plane, projectile and rotational motion. Students will find out about the various games in which the concept of projectile is used and how is it used. Design one game using the concept of projectile. **Practicals :·** - VERNIER CALLIPERS - SCREW GAUGE	Practical Assessment: http://amrita.olabs.edu.in/?sub=1&brch=5&sim=20&cnt=1
Chemistry	**Basic concepts in chemistry** - Introduction-importanc	**Each student will be able to**	- Chemistry is centre of science	- Prepare a mind map on Classification of

	e of chemistry in daily life ● Study of matter Classification ● Mole Concept ● Empirical formula ● Molarity, molality and mole fraction ● Limiting Reagent ● Stoichiometry	● Analyse the role and scope of chemistry in Everyday spheres of life. ● Explain the characteristics of the three states of matter ● List the significance of atomic mass ,molecular mass and formula mass ● Describe the terms mole and molar mass ● Solve numerical related to moles. ● Calculate the mass percent of different elements constituting a compound ● Determine empirical formula and molecular formula for a compound from the given experimental data ● Define limiting reagent and excess reagent. Predict limiting reagent in the equation and calculate products formed. ● Correlate mass of reactants with mass of products. ● Express concentration of a solution in terms of molarity ,molality and mole fraction ● Represent a chemical reaction in terms of a balanced chemical equation.	● **POSTER** Mind mapping on classification of Matter. ● **Practical:**Analyse given salt for the cation and anion. Write the result in tabular form. ● **ART INTEGRATION** Images of spectrum through different objects and denoting their wavelength.	matter. ● Worksheet on mole concepts ● Class test Write the mathematical formulas related to terms(a) Mass percent (b) Molarity (c) Molality (d) Mole-fraction ● Assignment ● Class test

		● Establish quantitative relationship between masses of chemical reactants and products in a balanced chemical equation **Each student will be able to** ● Differentiate between radiation and electromagnetic radiation ● Establish relation between velocity, frequency and wavelength of electromagnetic radiation ● State and formulate the law. ● Analyze Bohr's model with the dual nature of light. ● Calculate wavelength of radiation for H-atom using Balmer's formula ● Enlist the significance of De Broglie and Heisenberg's principle in day to day life.		● Google form- entry ticket
	Structure of atom ● Developments leading to Bohrs' model. ● Electromagnetic radiations and their properties ● Photoelectric effect and Planck's law ● Bohr's Model of atom ● Hydrogen spectra and wavelength ● Heisenberg uncertainty principle ● De Broglie relation			
Computer Science	**Unit 1: Computer Systems and Organization** ● Boolean Logic: Basic Logic Gates, Postulates of Boolean Algebra, Theorems of Boolean Logic, NOR, NAN, XOR,	**Each student will be able to** Create truth tables for logic gates and create advanced Boolean expression TTs.	**Learning Activity** ● Creating a Truth table for a given expression and finding what type of gate will be used for the same.	**Assessment worksheets:** ● Basics of Python ● Data Representation in Python ● Truth tables using different types of gates

	XNOR gates **Programming and Computational Thinking (PCT-1)** ● Expressions ● Operators ● Conditional Statements ● If else statement ● Programming based on conditional statement	**Each student will be able to** ●Create new Python statements , Expressions and compute it. ●Use and computer relational , arithmetic and logical operators in Python. ●Use relational and logical operators to create conditions. ●Create applications using Selection constructs	. Questions to compute an expression based on operator precedence. ● Applications to calculate the result of a student based on conditions. **Case Study** ● Create an application for your class teacher where she enters students marks and grades are calculated	● Class Tests ● Google quiz
Economics	**What is Economics and Statistics** Introduction Collection of Data Organization of Data Presentation of Data	**Each student will be able to** Differentiate between Economic and NonEconomic activities. Discuss functions and importance of statistics. Identify sources of Data. Draft a Questionnaire Organize data in the form of individual series and Frequency series	During the day, identify at least 10 activities undertaken by your family members and categorise them into economic and non-economic activities. Importance and Application of Statistics on Economics Mind map, group discussion, Brainstorming activities will be	Class test Worksheets Google forms Kahoot

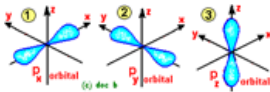|				
		Present the data in diagrammatic and Graphical presentation.	used for explaining good and bad impacts of Collected Data. Prepare a questionnaire on CCE vs Board exams in CBSE.	
Psychology	**Ch. 3- The Bases of Human Behavior** ● What are the biological basis of human behavior? ● How does culture impact behavior? ● How to differentiate between different socialisation processes?	**Each student will be able to** ● Understand the biological bases of behaviour ● Know the structure of nervous system and endocrine system and their relationship with behaviour ● Understand and know the process of enculturation, socialisation and acculturation	● Presentation ● Videos ● Group Discussion ● Virtual 3 D Tour ● Movie clips	● Homework assignments ● Short tests ● Art illustrations
	Ch.4- Human Development ● What is the meaning of development, growth and maturation? ● What are the challenges of different developmental stages?	**Each student will be able to** ● Understand the notion of development ● Understand different life stages like infancy, adolescence, adulthood and old age	● Presentation ● Videos ● Group Discussion	● Homework ● Google jamboards ● Assignments ● Quiz

Biology	Photosynthesis: -
	(Classes 7)
	
	● Significance,
	● Site of
	● Photosynthesis,
	  Photochemical and
	  Biosynthetic
	  Phases,
	● Photorespiration ,
	● C_4 pathway,
	● C.A.M.,
	● Factor affecting
	● Photosynthesis,
	
	● Chemosynthesis
		● Make a flow chart of the mechanism of the photochemical and biosynthetic pathway.
		● Differentiate C3 and C4 cycle.
		● Why do plants in temperate regions show a C4 cycle?
		● Explain the various factors affecting the process of photosynthesis.
		● Describe chemosynthesis in lower plants.
			Lab Activity
			Separating plant pigments using paper chromatography.
			
			Research topic – Students will present the research topic on Chemistry of changing colors of leaves.
			
				● Questions from exemplar as
				● Worksheet.
				● In-text questions.
				
				● Questions from exemplar as
				● Worksheet.
				● In-text questions.

AUGUST				

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**Sequences & Series**	**Each student will be able to** *recall the definition of sequence & series. *recall the definition of an A.P and the formula for its nth term. *state the formula for sum of n terms of an A.P *define A.M between two numbers a & b *define a G.P *find the nth term of a G.P *state the formula for sum of n terms of a G.P *find the sum to infinity of a G.P	(LA) Discussion on the Video seen at home. Questions from Assignment on Sequences& Series will be discussed. Students will investigate about Fibonacci Series (EL) To demonstrate that the Arithmetic mean of two different positive numbers is always greater than the Geometric mean.(ACTIVITY)	● HW given from NCERT (uploaded in Google Classroom) ● Oral Questions ● Google Form ● Class Work
	Complex Numbers and Quadratic Equations	**Each student will be able to** *recognize the need of a system of numbers beyond R *define iota. *define a complex number * find the sum, difference, quotient and product of two complex numbers.	(LA) Discussion on topics read from NCERT and Solved examples of NCERT read by students at home will help in further solving questions from Exercises.	● HW from NCERT (uploaded in Google Classroom) ● Oral Questions ● Google Form ● Diksha Practice work https://diksha.gov.in/cbse/play

		*list the various properties of addition and multiplication of complex numbers. *define conjugate and modulus of z. *list the properties of modulus and conjugate of z. *recall the methods of solving quadratic equations of class X *find the roots of a quadratic. equation with complex coefficients.	Questions from Assignment on Complex No & Quadratic Equations will be discussed. Students will find out the application of complex numbers in daily life and discuss . (EL)	/content/do_31311359166708 9408132?contentType=Practi ceQuestionSet
English	**Albert Einstein at School**	**Each student will be able to** Share anecdotes of school life. Read and analyze the lesson. Write speeches on the ideal student, the ideal teacher and the ideal education system.	Share anecdotes of school life. **1)Watch the links:** **https://www.dawn.com/news/6 01289/characteristics-of-the-id eal-teacher** **https://www.aplustopper.com/ an-ideal-student-essay/#:~:tex t=An%20ideal%20student%20i s%20one,of%20his%20duties %20and%20responsibilities.&t ext=An%20ideal%20student% 20should%20be,rules%20of% 20conduct%20and%20discipli ne** Water Cycle Chart.	● HW from NCERT & Assignment (uploaded in Google Classroom) ● Google Form ● Short Test. ● Worksheet
	Poem -The Voice of the Rain	Identify the elements of the water cycle in		

	(Walt Whitman)	this poem and in The Song of the Rain studied in class IX. Understand the central theme, poetic devices, literal / connotative meanings. Analyze the relevance of the poem's message in a writer's life.	https://www.noaa.gov/education/ resource-collections/freshwater/ water-cycle#:~:text=The%20wat er%20cycle%20shows%20the,f orm%20of%20rain%20and%20s no	
	Writing Skill:Notice Writing	Understand the format, content used in a notice. Comprehend the sequence of points to be listed.Write notices, in the correct style and format.	Practice different kinds of notices-School event, School trip, Lost and Found, Resident Welfare Association related.	Assignment
	Discovering Tut	Understand certain aspects of Egyptian culture and customs. Read the lesson to create a timeline for Tut's discoveries. Evaluate archaeology and advanced medical techniques of forensic analysis.	PPT Research work: Find out about the various burial methods of the Egyptians and the superstitions related to them. Class Discussion	
	Grammar Revision	Identify the appropriate determiners, articles, modals to be used to fill in the blanks. Write the answers for edits and omits.		Revision Worksheet

Physics	Work-energy power	Each student will be able to	ART INTEGRATION/ EXPERIENTIAL LEARNING ACTIVITY	Diksha practice Module: https://diksha.gov.in/resources/play/content/do_31308599682473984011906
	· Work energy theorem · Work · Kinetic energy · Work done by variable force · Potential energy · Power · Collisions	· Prove work energy theorem · Solve numerical based on work-energy theorem · Write expression for work done by a force. · Solve numerical to work done by a force · Derive the expression for kinetic · energy. · Find expression for work done by a variable force · Derive the expression for potential energy. · Obtain an expression for potential energy stored in a spring · Derive the expression for power. · Write vector and scalar form of power. · define coefficient of restitution · differentiate elastic and inelastic collision · list examples of elastic and inelastic collision · Centre of mass of two and n particle systems · Expression for velocity, acceleration and force acting on the center of mass.	Hot wheels launcher using cardboard. Hot wheels launcher-Elevated tracks, potential energy, Kinetic energy 	https://diksha.gov.in/resources/play/content/do_31308599704674304012159 · Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi

		· Draw interpretation of motion of center of mass. · Find a vector product of two vectors. · Find a vector which is perpendicular to two given vectors. · Write relation between angular velocity and acceleration. · Solve numerical based on it · Write relation between torque and angular momentum. · Write the condition of equilibrium of a rigid body. · Solve numerical based on it · Moment of inertia · Write theorems on moment of inertia · Find the moment of inertia of some symmetrical objects.		
Chemistry	**Structure of atom** ● Orbital concept of atoms ● ● Quantum no's and significance ● Electronic	**Each student will be able to** ● Differentiate between orbit and orbital ● Assign quantum nos to an electron in a shell. ● Outline the significance of quantum nos. ● Represent electronic configuration in terms of orbitals using	● A comic strip showing the filling of electrons in s,p,d and f orbitals OR ● Comic strip on photoelectric effect. ● Subject and art integration activity: Create a poster showing history of development in	● Assignment. ● Class test. ● Questions from exemplar ● Numerical would be given to test understanding

	configuration ● Principles governing filling of electrons in orbitals	principles of filling orbitals	atomic structure
	Redox reactions ● Oxidation,Reduction ● Electronic Concept of redox reaction) ● Oxidation Number ● Types of reactions in terms of redox ● Balancing Ionic Equations ● Electrochemical cells ● Construction and Working ● Electrode potential and Electrochemical series ● Cell potential	**Each student will be able to** ● Identify redox reactions as a class of reactions in which oxidation and reduction occur simultaneously ● Define the terms oxidation, reduction, oxidant and reductant ● Explain mechanism of redox reactions by electron transfer process ● Calculate oxidation number from the given set of rules. ● Use the concept of oxidation number to identify oxidant and reductant in a reaction. ● Classify redox reaction into ● Combination ,decomposition, displacement and disproportionate reaction ● Balance chemical equations using Half reaction method in acidic and basic medium ● Explain the concept of redox	● Experiential learning/AIL set up of electrochemical cells./ study the inverter battery and prepare a report. ● **Practical:**Analyse given salt for the cation and anion. Write the result in tabular form.	● Class quiz Balancing ionic equation ● Worksheet on electrochemistry google docs ● Google form

		reactions in terms of electrode processes ● Set up an electrochemical cell and describe its working ● Calculate the electrode potential of a cell. ● Solve Numericals related to emf of cell using electrochemical series		
	Chemical Bonding and Molecular structure Octet rule and its limitations. Lewis-Dot structures formation of ionic compounds by electron transfer Conditions for ionic bond formation. Formal Charge Polarity and dipole moment VSEPR theory Hybridisation	**Each student will be able to** •Explain the octet rule and list its limitations with examples. •Apply Kossel-Lewis approach to chemical bonding •draw Lewis structures of simple molecules •Represent bonding diagrammatically. •Explain the conditions for ionic bond formation. •Calculate formal Charge on a molecule and ion •Define polarity and predict dipole moment of a molecule. •describe the VSEPR theory and predict the geometry of simple molecules •predict the directional properties	**Experiential** Hands on - ball and stick model of carbon compounds	Draw lewis structures Google form and doc

		of covalent bonds; •explain the different types of hybridisation involving s, p and d orbitals		
Computer Science	**Unit : Programming and Computational Thinking (PCT-1**) ● Notion of iterative computation and control flow ● for, while ● Flowcharts ● decision trees ● Creating iterative applications ● Understanding the execution of loops. ● Counting the number of iterations : null loop , infinite loop , finite loop. ● pseudo code; ● Idea of debugging: errors and exceptions; debugging ● Strings: compare, concat, substring	**Each student will be able to** ●Execute iterative statements ●Work with for loop ●Work with while loop ●Perform dry run on looping constructs ●Count the number of iterations on a looping construct. ●Create applications using loops ●Create patterns using loops ●Compute series using loops ●Debug their applications ●Write pseudo codes. ●Work with strings. ●Implement built in functions from python string library	**Learning Activity** Write programs/ applications to: Calculate factorial Printing Patterns **Case Study :** Calculating compound interest without using formulas **Experiential Learning Activities**: String manipulation using Python IDLE. Test programs with dummy data ,debug and interpret the outputs	● Assessment worksheets ● Data Representation in Python ● Class Tests ● Google quiz and forms

Economics	Mean Median Mode Do computation of mean. Compute value of Median, Mode, and Quartiles and interpret its result.	Each student will be able to Do computation of mean. Compute value of Median, Mode, and Quartiles and interpret its result.	Newspaper articles on the topics discussed. Find average monthly expenditure for your household. Worksheet Activity to compute the three variables using playing cards. 	Class test Worksheets Google forms Kahoot
Psychology	**Ch.5-Sensory, Attentional and Perceptual Processes** ● What is the role of sensory processes in perception? ● What are underlying perceptual processes governing mental processes?	**Each student will be able to** ● Understand sense modalities and perception ● Define and understand the process of attention and associated theories ● Understand principles of perceptual organization	● Quiz ● Presentation ● Videos ● Group Discussion	● Homework assignments ● Quiz on google slides

	● What is attention? Theories of attention and ways to sustain it **Ch.6- Learning** ● What is the nature of learning? ● What are the key theories of learning? ● What are the types of learning? ● What are learning disabilities? ● How to apply learning principles in daily life?	● Know and recognize illusions and their influence on perception **Each student will be able to** ● Define and understand learning and its definitions ● Understand classical and operant conditioning ● Know observational, cognitive and verbal learning ● Understand learning disabilities	● Group Discussion ● Presentation ● Videos ● Flowchart	● Homework assignments ● Art illustrations
Biology	**Morphology of flowering Plants** (Classes -5) ● Inflorescence, flower ● Description of flowering plants parts and some important families from plant Kingdom	**Each student will be able to** ● Explain the Structure & arrangement of floral parts types of flowers & , inflorescence, ● Write the terms for description of a flower. ● Explain flowers of two families. ● Draw L.S. of flower & Draw floral diagram	● Make small collage on any one ,leaf modification,stem modification & placentation. ● Make a concept map on modifications of root, stem and leaves **Lab-activity** Description of Flower from the following families e.g.	● Use various vocabulary words from the topic and make a concept map. ● Draw the floral diagram of the given floral formula ● Compare aerobic respiration in plants with anaerobic Respiration.

			Solanaceae/ Fabaceae Liliaceae. **https://diksha.gov. in/play/content/do 313218363100266 49612282 revise and extend learning**	● How do you calculate growth rate in leaves?
	Structural organization in animals (3 Classes) Animal tissues	● Explain the types of animal tissues. ● Classify each tissue into subtypes on the basis of structure & function	● Make a flow chart to classify animal tissues on the basis of structural complexity. ● Specify location and one function of each tissue as well	● Questions as worksheet from Exemplar ● https://diksha.gov.in/ play/content/do_313 2237905122918401 259 extended learning
	Respiration in Plants: - (Classes -5) ● Types of Respiration, Respiratoryratio,	● Explain the importance of respiration in plants. ● Describe various modes of respiration and respiratory	● Make flow chart of glycolysis process. ● Graphically show steps	

	- Mechanism of Respiration, - PPP, - Compensation Point	quotient in determining the nature of substrate used. - State alternative mechanism of respiration in plants. - Make a flow chart of glycolysis and TCA cycle. - Describe PPP and its mechanism. - State compensation point of carbon dioxide and oxygen	- of Krebs's cycle - Draw ETS system of plants - Give an account of ATP's generated during aerobic respiration from one glucose molecule. **Subject Integration**- Are the laws of thermodynamics applying in the image shown above. Comment	

SEPTEMBER

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**Linear Inequalities**	**Each student will be able to** *recall the concept of linear equations *define a linear inequality. *list the rules of solving a linear	(LA) Extra questions based on Graphical and Algebraic methods will be done. Explore about Real world	HW given from NCERT(uploaded in Google Classroom)

		inequation in one variable. *recall the method of plotting lines on a graph sheet. *explain the method of graphical solution of linear inequations in two variables. *define reference point, feasible solution and feasible region. *solve a system of linear inequalities using a Graphical method.	Inequalities (EL) To verify that the graph of a given inequality ,say 5x+4y-40<0, of the form ax+by+c<0, a,b>0, c<0 represents only one of the two half planes. (ACTIVITY)	● Oral Questions ● Google Form
	Straight Lines	**Each student will be able to** *define the inclination of a line. *define the slope of a line. *find the slope of a line using various formulas *list the various forms of equations of line. *find the equation of a line using the various forms of line. *calculate the distance of a point from a line. *define concurrency of lines * interpret the given data to form the equation of line.	Draw a Rangoli pattern using the Kolam art form of South India. (AIL) Questions from Assignment will be discussed	● HW given from NCERT (uploaded in Google Classroom) ● Oral Questions ● Google Form
	Limits & Derivatives (contd)	**Each student will be able to**		● HW from NCERT & Assignment

		*define derivative of a function at a point. *relate to the geometrical interpretation of derivatives. *evaluate derivatives using the method of first principle. *list the formulae of derivatives of some standard functions. *explain the concept of chain rule, quotient rule and product rule. *apply the above learnt concepts in differentiating various functions.	Relate the concept of derivatives to other branches of science and Economics (EL) To verify the geometrical interpretation of Derivatives (ACTIVITY)	(uploaded in Google Classroom) ● Google Form ● Short Test
English	**ASL –** **Listening Skills Assessment (TERM1)** **ASL-Speaking Skills Assessment(TERM 1)** **Report writing- Magazine and Newspaper**	**Each student will be able to** Listen to the audio carefully and answer the questions given in the worksheet. Speak fluently and effectively, on the topics given. Describe the event in a formal and concise manner. Write a report according to the appropriate format and style. List down the content required for report	Audio file followed by a worksheet. Speaking Activity Explanation and discussion of samples through screen sharing.	Worksheet Assignments Worksheet Classwork

	Poem: Childhood	writing. Identify the milestones of childhood. Understand perspectives of parents & children (VALUE). Analyze the poems to identify the key elements. Judge the poem from a girl's perspective (GENDER). Analyze the poem to identify the key elements. Understand and discuss why childhood is regarded as the best years of one's life. Identify the poetic devices used. Justify the relevance of the title.	Charts and other stationery for the Childhood Tree. Sample critical appreciation. Watch the link given below: https://oureducare.com/education/general-characteristics-of-childhood/	
	Writing Skill: Debate	Understand the format, content and expression used in debate writing. Write debates- for/ against the topic.	Write a debate based on the necessity of a proper environment while growing up for a child.	Assignment
Physics	**Gravitation** · Kepler's laws · Universal law of gravitation	**Each student will be able to** · Write relation between radius and time period of revolution. · Find expression for acceleration	**ART INTEGRATION** https://www.sciencelearn.org.nz/embeds/25-rocket-launch-	· **Diksha Practice Module** https://diksha.gov.in/resources/play/content/do_31320

	· Acceleration due to gravity and its variation · Gravitational potential energy · Escape speed · Earth satellite **Systems of particles and rotational motion** · Centre of mass · Motion of Centre of mass · Vector product of two vectors · Angular velocity and linear velocity · Torque and angular momentum	due to gravity. · Find how acceleration due to gravity changes with depth and height . · Find expression for gravitational potential and gravitational energy. · Solve numerical based on gravitational potential energy. · Find expression for escape speed from the surface of earth. · Solve numerical based on escape speed. · Name type of satellites. · Find expression for orbital velocity of a satellite. · Find expression for the energy of the satellite.	simulation Explain the launching of rockets and the types of rockets using AR tools. **Practicals:** · HOOKE'S LAW · COEFFICIENT OF VISCOSITY	778406778470417496 · Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi
Chemistry	**Chemical Bonding and Molecular structure** ● Formal Charge ● Polarity and dipole moment ● VSEPR theory ● Hybridisation	**Each student will be able to** ● Calculate formal Charge on a molecule and ion ● Define polarity and predict dipole moment of a molecule. ● describe the VSEPR theory and predict the geometry of simple molecules ● predict the directional properties	**PRACTICAL** ● **Volumetric analysis** .	● Assignment as google docs ● Google form Edpuzzle video

		• of covalent bonds; • explain the different types of hybridisation involving s, p and d orbitals **Organic chemistry-Some basic principles and techniques** • NOMENCLATURE of hydrocarbons and aromatic compounds **REVISION FOR TERM 1 EXAMINATION**	• Explain unique character of carbon and formation of organic compounds • Name organic compounds on the IUPAC system and also formulate name from structure		Assignments on nomenclature
Computer Science	• **Revision for Mid Term Examinations** • **Doubt clearing Session for Book exercises** **Term II Syllabus** • Introduction to List**s** • Membership, concatenation, repetition in a list • List functions	**Each student will be able to :** • Solve the problems with the help of programs written in python • Submit the proposal (synopsis) for their mini project	**Practical:** **Assignments topics :** • Input /output • Handling Numbers(some famous numbers) • Conditional Construct • Iterative construct • Patterns • Arithmetic Progression programs • List based programs	Class Test on Google form Assignment on google docs Synopsis of the mini project Practical file submission

Economics	Cost Revenue Production function and Returns to a Factor Cost and Revenue	**Each student will be able to** Identify cost and revenue Discuss the different types of costs and revenues. Derive the condition for equilibrium at the producer's level. Derive the relationships between different costs and total revenue and marginal Calculate the different costs and revenue applying the formulae. Numericals	**Electricity Bills** to elicit the concept of fixed cost and variable cost. **Survey** to be conducted by students to assess the cost and revenue https://frbatlanta.org /education/publications/extra credit/2015/fall/lessons-and activities/highschool/microecono mics/supply-and demand-activity-activity sheet http://teacherlink.ed.usu.edu/tlre sources/units/byrnes-literature/L BREEDER/lesson3.html PROFIT = REVENUE - COST TO INCREASE THIS... ...INCREASE THIS... ...OR DECREASE THIS	Class test Worksheets Jamboards
Psychology	**Ch. 7- Human Memory** ● What is memory? ● What are the types of memory? ● How is memory classified?	**Each student will be able to** ● Understand memory and its types ● Classify types of memories ● Understand forgetting and its theories	● Quiz ● Presentation ● Videos ● Group Discussion ● Flowcharts	● Assignments ● Group Discussion ● Test

	● What are the ways to enhance memory? **Ch. 8- Thinking** ● What is thought? ● What are the higher order ways of thinking? ● What is language? ● How to develop thought and language?	● Know ways of enhancing memory **Each student will be able to** ● Understand thinking and its components ● Understand problem solving, reasoning and decision making ● Know the process and nature of creative thinking ● Understand thought and language	● Group Discussion ● Presentation ● Videos ● Flowchart	● Homework assignments ● Art illustrations
Biology	**Biological Classification** ● Kingdom monera, ● Kingdom Protista, ● Kingdom Fungi, ● Kingdom Plantae, ● Kingdom Animalia, ● Viruses, Viroids and Lichens **Plant kingdom-classification as**	● Classify the types of bacteria. ● Classify Protists on the basis of mode of nutrition ● Describe types and classification of ● plants, animals and fungi. ● Write about types of Viruses, Viroids and Lichens. **Each student will be able to**	● List salient features of ● monerans, Protista, Plants, ● Animals and Fungi, Viruses, Viroids and Lichens ● Write three examples of each kingdom. ● Draw the labelled diagrams.	● Draw the diagram of the specimens as specified and ● write four identifying features of each specimen ● Exemplar questions as a worksheet. ● Google form ● Brainstorming ● Live quizz

	● Experiential activity-using Virtual specimens ● Life cycle of Bryophytes (Funaria) ● Pteridophytes (Dryopteris- Fern) Gymnosperms (Pinus –as conifers)	● List the Characteristic features of each division. ● Draw the life cycle of the members from each division.	● Write characteristic feature of each specimen drawn	
	Breathing and Exchange of gases (Classes -5) ● Gaseous Exchanges, ● Respiration in Humans, ● Regulation of Respiration, ● Disorders	**Each student will be able to** ● Explain the structure of the respiratory system. ● Describe the mechanism of physiological processes involved in the exchange of gases of humans. ● Draw Respiratory system of human beings. ● Enlist disorders of human respiratory	● Make a list of Respiration disorders in humans ● How are respiratory gases transported by the blood in the humans? Explain. ● Make a concept map on respiration regulation. ● Quizzes/Quizlet for recapitulation	
OCTOBER				

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**REVISION FOR MID TERM-EXAMINATION**	4-8 Oct- Practical exams 13- 18 Oct- Dussehra break 20/21 Oct- Mid term begin		
English	**The Laburnum Top** **Birth**	**Each student will be able to** Understand the central theme, poetic devices, literal / connotative meanings. Analyze the relevance of the poem's message in a writer's life. Understand the meaning of the poem and its relevance in life. Answer the questions correctly. Analyse a doctor's role in the process of delivery.	1) Collaborative learning - Link it to the poem,'The Voice of the Rain'. 2) Read the information in the link given below:https://www.toppr.com/guides/english/english-hornbill/the-laburnum-top-summary/ Session with doctor on the most difficult / important case of their career and the accountability each case levies. Video based group discussion. Background reading – Citadel–the story thus far.Identification of key themes and resolving the	Worksheet Assignments Google classroom

	Writing Skill: **Job Application and biodata**	Write a job application with proper format, content and expression. Write grammatically accurate language in the letter. State qualifications and work experience in a concise manner.	question bank in Groups. PPT	Assignment
	The Ailing Planet	Realise the importance of the environment.	Learning to harvest water, set up a recycle bin at home and reuse waste materials. Understanding and analyzing the need for resources and sustainable development.Working in groups to create reusable items from waste materials.	
	Reading Skills: **Comprehension**	Answer the questions correctly and meaningfully.	Brainstorming sessions on passages given for practice.	Assignment
Physics	**Properties of solids** · Elastic behavior of solids · Stress and strain · Stress strain curve · Elastic moduli	**Each student will be able to** · Explain the term elasticity · Why do substances have elastic behavior? · Define stress and strain	Practicals:Experiment on	· Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi

			determination of least count of the apparatus, To determine the dimensions of a given body and hence calculate its volume.	
	· Application of elastic behavior of materials Revision for Mid term Examination. Practical Examination	· List the different types of strain and stress. · Draw stress-strain graphs. · Interpret the stress-strain curve. · Name a different type of modulus of elasticity. · Solve numerical based on it. · Why is it left between two rail lines? · Why are hollow pillars made of the same material as solid one are stronger?		
Chemistry	**Organic chemistry-Some basic principles and techniques** ● Isomerism ● Types of cleavage of bonds ● electromeric effect ● inductive effect ● hyper conjugation, ● Resonance effect and	**Each student will be able to** ● Describe the molecular orbital Theory ● Draw MO diagram of homodiatomic molecules of first and second period elements **Each student will be able to** ● Explain unique character of carbon and formation of organic compounds ● Name organic compounds on the IUPAC system and also formulate	**Art integration:** Role play to show the formation of bonds OR Making of molecular structures from materials available at home. **Practical**: Analyse given salt for the cation and anion. Write the result in tabular form.	Worksheet MCQ ● Follow-up questioning ● Peer Check ● Quick Write ● Class Test

	resonance	name from structure. ● Classify the organic compounds ● Write structures of organic molecules. ● Explain the influence of electronic displacements on structure and Reactivity of organic compounds ● Explain organic reactions and their common types.		
Computer Science	**REVISION FOR MID TERM-EXAMINATION**	4-8 Oct- Practical exams 13- 18 Oct- Dussehra break 20/21 Oct- Mid term begin		
Economics	**REVISION FOR MID TERM-EXAMINATION** 4-8 Oct- Practical exams 13- 18 Oct- Dussehra break 20/21 Oct- Mid term begin			
Psychology	**Ch. 9- Motivation and Emotion** ● What is motivation? ● What are the theories of motivation? ● How is the expression of emotions managed?	**Each student will be able to** ● Understand the nature of motivation, types of motives ● Know Maslow's hierarchy of needs ● Understand emotions, its physiological bases, expressing emotions and managing negative	● Quiz ● Presentation ● Videos ● Group Discussion ● Flowcharts	● Assignments ● Group Discussion ● Test

	● What are the theories of emotion? ● How to enhance positive emotions?	emotions and enhancing positive emotions		
Biology	**Body Fluids and Circulation** (Classes -5) ● Open andClosed systems, ● Circulatory ● System of Humans, ● Lymphatic ● Systems, ECG, ● Pacemaker, Disorders	**Each student will be able to** ● Enumerate the process of circulation of body fluids in humans .. ● Differentiate open and closed systems. State human blood and its functions. ● Draw and explain the human heart, its structure and function. ● Enlist function of lymphatic system. ● Compare blood circulatory system with Lymphatic system ● State the use of ECG and pacemaker. ● Enlist the disorders related to the circulatory system.	● Write in a tabular form blood group in humans and the antigens present in the blood human beings, ● Explain Lymphatic system and its significance, ● Graphically explain ECG, ● List common Disorders related to the human heart. **Subject integration**- derive relationship of blood flow with Bernoulli's Principle. Discuss the observations in the class.Draw the labeled structure of Nephron.	● Make a concept map on human disorders ● Google doc with extra questions for practice
	Excretory Products and their Elimination	● Explain the terms osmoregulation, ● homeostasis.	● List three steps of urine formation. ● What do you	● Worksheet based on Autoregulatory function

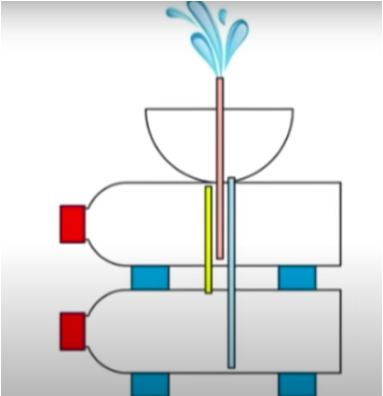|	(Classes -5)
	   • Osmoconformers and Osmoregualtors, Elimination of Nitrogenous Wastes,
	   • Simple and Complex TubularSystems,
	   • Mechanism of UrineFormation,
	   • Regulation of Kidney,
	   • Micturitionand Constituentsof Urine,
	   • Hemodialysis and kidney
	   • Transplantation,
	   • Role of Lungs, Skink, Liver in Excretion
		• Explain different mechanism for
		• elimination of solutes and water in animals.
		• Describe the mechanism of elimination of
		• nitrogen wastes in flatworms, earthworms
		• cockroach.
		• Explain the working of complex tubular systems in human beings.
		• Describe the mechanism of urine formation.
		• State the regulation of kidney function. Write the importance of hemodialysis and kidney transplant.
		• Enumerate the role of excretion in skin liver lungs.
			understand about the term GFR? Explain briefly	• Google form with MCQs

NOVEMBER

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**Conic Sections**	**Each student will be able to** *analyze a conic section as a section of double-napped cone. *define a conic section.	Students will identify the various conic sections around them (EL)	• ·HW given from NCERT (uploaded in Google Classroom)

		*list the various types of conic sections. *recognize the standard equation of various conic sections. * define a circle. * find radius and circle of a given circle using its equation. * form the equation of a circle using the various conditions given. *define centre, vertex,latus rectum,vertex, focus for a Parabola. *define major and minor axis, transverse and conjugate axis. *apply the knowledge gained in finding the vertex, foci, centre length of latus rectum, length of axis of ellipse and hyperbola.	An alternative method of constructing a parabola. (ACTIVITY)	● Oral Questions ● Google Form ● Diksha Practice Work https://diksha.gov.in/cbse/play/content/do_31310774832458956813582?contentType=PracticeQuestionSet
	Permutations & Combinations	**Each student will be able to** *state the fundamental principle of Addition / Multiplication *define permutation. *find the number of permutations of n different objects with or without repetition. *find the number of permutations when all the objects are not distinct objects.	To construct a Pascal's Triangle and to write binomial expansion for a given +integral exponent. (ACTIVITY) (LA) Solved examples of NCERT read by students at home will help in further solving questions from Assignment and NCERT	● HW given from NCERT (uploaded in Google Classroom) ● Oral Questions ● Google Form ● Diksha Practice work https://diksha.gov.in/cbse/play/content/do_3131142373369282561342?contentType=PracticeQuestionSet

English	Prose –Ranga's Marriage	Each student will be able to	Watch the link given below:	Worksheet
		Enact key scenes based on reading done at home (FLIPPED).	https://timesofindia.indiatimes.com/astrology/others/benefits-of-love-marriage/articleshow/68205887.cms	Assignments
		Analyze the lesson to resolve the question bank.		Google classroom
	Play –Mother's Day	Evaluate the status and definition of mothers in the 21st Century. (GENDER)	Collaborative learning (enactment).	
		Understand the pivotal role mothers' play in a family set-up.	Buzz sessions to solve the question bank.	
			Linguistic task based on retrospection.	
			Accepting different members of the family with their unique characteristics like different coloured gems in a packet.	
	Writing Skill-Speech	Write a speech according to the appropriate format.	PPT	
		Understand the content required for a speech.	Samples explained and discussed through screen sharing	Worksheet
		List the key points to be written in a speech.		

	Play – The Browning Version.	Identify the flow of plot, character traits and theme of the play. Understand new terms unfamiliar in the Indian Education System. Analyze and evaluate the role of teachers' in a student's life.	1)Debate – Science gets all the slackers OR Frank would have been a better teacher for Taplow. Experiential Learning: Interview your favourite teacher in school on an ideal student-teacher relationship. Note down why you like him/her the most.	
Physics	**Properties of fluids** · Pressure · Pascals Law · Stoke's Law · Stream line , laminar and turbulent flow · Bernoulli's principle · Viscosity · Reynolds number, Surface tension	**Each student will be able to** · Write SI unit of pressure. · State Pascal's law. · Write application of pascals law. · Explain streamline flow · State properties of streamline flow. · State the Bernoulli's theorem · State assumptions under which Bernoulli's theorem is valid. · Explain Magnus effect · Define viscosity. · Write Si unit of viscosity	**Hands-on Experiential Activity:** Make your own water fountain using old bottles.	· Assignment Sheet · Google Form · Exit Ticket · Written responses on whiteboard.fi PRACTICALS: · ● **SPHEROMETER** ● **PARALLELOGRAM LAW OF VECTOR ADDITION USING**

				GRAVESAND'S APPARATUS.
		· Define terminal velocity · State stokes law. · Dimensionally prove stokes law · Write the value of Reynolds number for different types of flow · Define critical velocity · List the applications of surface tension in daily life · Solve numerical based on surface tension · Explain the shapes of liquid meniscus using vector diagrams		Experiment on determination of least count of the apparatus, To determine the dimensions of a given body. To calculate the mass of a given object using the parallelogram law of vector addition.
Chemistry	**Hydrocarbons** ● Classification ● Nomenclature ● Isomers ● ALKANES, ALKENES, ALKYNES ● Preparation ● Physical and chemical properties ● Aromatic hydrocarbon ● Nomenclature ● Resonance ● Preparation and properties.	**Each student will be able to** ● Classify hydrocarbons on the basis of general formula ● Name hydrocarbons according to IUPAC system of nomenclature ● Recognize and write structures of isomers of alkanes, alkenes and alkynes and aromatic hydrocarbons ● Describe methods of preparation of hydrocarbons ● Explain properties of hydrocarbons and compare their reactivity ● Predict the formation of the	**Practical:** Analyse given salt for the cation and anion. Write the result in tabular form.	● OBT Test on nomenclature ● Short tests on reactions

		addition products of unsymmetrical alkene and alkyne on the basis of electronic mechanism ● Classify benzene and list its resonating structures. ● Explain aromaticity and understand mechanism of electrophilic substitution reactions of benzene ● Predict the directive influence of substituents in mono substituted benzene ring.		
Computer Science	**Unit II - Programming and Computational Thinking (PCT-1)** **Tuples** ● Tuples data type ● Tuples functions ●Tuples Manipulation and programming **Dictionaries** ● Dictionary data type and its functions ● Finding the maximum, minimum, mean;	**Each student will be able to** ● Use tuples and its functions ● Code various programs based on Lists and Tuples ● Use dictionaries as map ● Perform sorting using various techniques	**Learning Activity :** ● Use slicing in tuples to extract n number of elements **Experiential Learning :** ●Create an application that receives a number of integers from the user and prints the position of the element that is to be searched. Case study ●Create an application to perform linear search of a sorted set of integers	**Assessment worksheet** ●Error Finding / Output Finding on dictionary functions ●Error Finding / Output Finding on tuples functions ● **Class Test:** ● Dictionaries and Functions ● Performing searching and sorting

	linear search on list/tuple of numbers ● counting the frequency of elements in a list using a dictionary.			● Tuples and functions
Economics	**Standard Deviation, Correlation**	**Each student will be able to** Calculate standard deviation. Compute correlation by karl pearson's method	**http://www.blog.gurukpo.com/wp-content/uploads/2012/04/Methods-of-Determining-Correlation.jpg** Activity based learning 	Class test Worksheets Google forms
	Supply Supply Concept, Supply schedule, function Law of Supply Price Elasticity	**Each student will be able to** Analyse changes that happen when price in the market changes and how the producer's behaviour changes keeping income given. Identify the concept of Supply Analyse the factors affecting Supply. Represent the movements and Shifts in	http://www.tutor2u.net/economics/reference/theory-ofsupply https://frbatlanta.org/education/classroom economist/infographics/supply-anddemand/fullview.aspx https://youtu.be/lqD Wi8p2CuU	Class test Worksheets Jamboards

		supply curve diagrammatically Analyse the factors affecting supply Numerical Practice		
Psychology	**Practicals -** 2 Experiments and 1 Project	Students will write and conduct experiments and project based on CBSE guidelines	Write material provided	Presentation of files
Biology	**Neural Control and Coordination** (Classes -7) ● Nervous System Humans, ● Peripheral and Autonomic Nervous ● Systems, Reflex Action, Structure and function of sense organs, Eye, Ear, Nose and Tongue	**Each student will be able to** ● Explain Nervous System in humans. ● Describe the process of nerve impulse travel and different stages of axon membrane. ● Enumerate the ways of transferring information from nerve to target cell. Differentiate between CNS, PNS and autonomic system. ● Enlist the functions of reflex action. ● Explain and draw sensory reception and processing of eye, ear,	● Make a flow chart on parts of the nervous system. ● Label the parts of the human brain. ● Explain the mechanism of nerve conduction. ● Compare the rate of conduction of nerve impulse between myelinated and unmyelinated nerve fibre	● Google form ● Google docs ● Class test

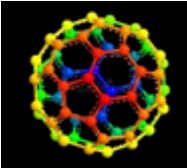|				
	Chemical Coordination and Integration (Classes -5) ● Human Endocrine System, ● Molecular Mechanism of Hormone Action.	● Enlist the various endocrine glands. ● Describe endocrine glands, their structure function and disorders. ● Explain molecular mechanism of hormone action extracellular ● receptors and intracellular Receptors.	● List the happiness hormones present in the human endocrine system. ● Explain the structure and function of the master endocrine gland of the endocrine system. ● Make a mind map on functions of the endocrine system.	● Worksheet having exemplar questions ● If insulin is administered in the human body, explain its mechanism in the body. ● List any two hormones that show antagonistic functions.

DECEMBER

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**Permutations & Combinations (Contd)**	**Each student will be able to** *define a combination. *differentiate btw P & C * apply the various formulas of	Solved examples of NCERT read by students at home will help in further solving questions from Assignment and NCERT Few questions from	● HW given from NCERT (uploaded in Google Classroom) ● Oral Questions ● Google Form

		Pand C in solving statement Questions.	Assignment on Permutations & Combinations will be discussed. Who was the first Indian Mathematician to deal with the concept of P&C	● Diksha Practice work https://diksha.gov.in/cbse/play/content/do_313114237 3369282561342?contentType=PracticeQuestionSet
	Probability	**Each student will be able to** *recall the concept of probability *recall the definition of random experiment, sample space *write the sample space of a random experiment *list the various kinds of events mutually exclusive and exhaustive events. *prove events to be mutually Exclusive or exhaustive. *express the formulae for probability of an event. *state the Addition formulae of probability *apply the concepts learnt in solving problems.	(LA) Discussion on the Video seen at home. To write the sample space, when a coin is tossed once, two times, three times and four times. (ACTIVITY)	● HW given from NCERT (uploaded in Google Classroom) ● ·Quiz ● Diksha Practice Work https://diksha.gov.in/cbse/play/content/do_31311334091370496 011758?contentType =Pr

English	Silk Road	**Each student will be able to**	Buzz sessions	Classwork
		Interpret the meaning, theme of the lesson.	Sessions on what's a travelogue , contents of a travelogue -PPT (Collaborative and Experiential Learning).	Questions for Practice. Revision questions for practice.
		Appreciate the development of characters through the course of the story..		
		Write meaningful textual answers.	Spatial Linguistic Task (the childhood tree)	
	Poem: Father to Son	Understand and discuss why childhood is regarded as the best years of one's life.	Read the information given in the link: https://www.verywellfamily.com /looking-at-the-generation-gap-1695859	
		Identify the poetic devices used.		
		Justify the relevance of the title.		
	Grammar (Revision)	Identify the correct answer and fill in appropriately.	Class Discussion	
	ReadingSkill: Comprehension (Revision)	Answer the questions appropriately and meaningfully.	Buzz sessions	Worksheet
	PROSE-Landscape of the Soul	Read the lesson.	Differentiate Oriental Art form European Art form.	
		Identify the theme of the lesson.	PowerPoint Presentations on different Art forms- Pair and Square. (Collaborative and Experiential Learning)	
		Explain the necessity of Art form.		

Physics	Oscillations	Each student will be able to	Propagation of waves.	· Assignment Sheet
	· Periodic motion · Simple harmonic motion · Simple harmonic motion and uniform circular motion · Velocity and acceleration in simple harmonic motion · Force law of simple harmonic motion · Energy in simple harmonic motion · Some systems executing SHM · Damped simple harmonic motion. · Forced oscillations and resonance	· Define periodic and oscillatory motion. · State conditions for a periodic motion to be an oscillatory motion. · When an oscillatory motion can be a simple harmonic motion? · Describe simple harmonic motion. · To find the time period of oscillations for a simple pendulum, spring system. · Explain periodic motion with the help of uniform circular motion. · Write expression for an object moving in uniform circular motion, when taken as projection of x axis. · Find expression for velocity and acceleration in SHM. · Plot variation of displacement, velocity and acceleration in simple harmonic motion · Define SHM in terms of force law. · Find energy of SHM. · Plot variation of kinetic, potential and total energy in SHM. · Write an expression for the time period of an object in SHM. · What are damped oscillations? · Why does the amplitude of oscillation go on decreasing with time?	https://phet.colorado.edu/en/simulation/wave-on-a-string https://www.youtube.com/watch?v=-QgTF8p-284 (Theremin : a musical instrument that you can play without touching!!)	· Google Form · Exit Ticket · Written responses on whiteboard.fi

		· Draw variation of damped oscillation with time. · What are forced oscillations? · What are resonant oscillations? · Why does the amplitude of oscillation go on increasing with time in case of resonant oscillation.		
Chemistry	**States of matter** ● Intermolecular forces ● ,Avogadro law, Ideal gas equation ● Applications	**Each student will be able to** ● Explain existence of different states of matter in terms of intermolecular forces and thermal energy. ● Explain the laws governing behaviour of ideal gases ● Carry out calculations based on gas laws ● Apply gas laws in various real life situations ● Explain the behaviour of real gases	Arvind gupta toy Boyles Law https://www.youtube.com/watch?v=hAvT1WbjOEE&t=53s https://phet.colorado.edu/en/simulation/states-of-matter-basics https://phet.colorado.edu/sims/html/gas-properties/latest/gas-properties_en.html	● Class test ● Variation in properties (Quiz)
	Equilibrium ● Dynamic equilibrium ● Physical equilibrium ● Law of chemical	**Each student will be able to** ● Derive the expression for dissociation constant ● Describe pH scale and classify	Fullerenes are allotropes of carbon.Find uses.	● Short Quiz ● Open-book tests

	Equilibrium ● Homogeneous equilibria ● Extent of a reaction ● Le chatelier's principle ● Ionic equilibrium	compounds into acids, bases and neutral ● explain the dynamic nature of equilibrium in physical and chemical processes ● State and explain the law of chemical equilibrium ● Predict the extent of chemical change ● State and apply Le chatelier's principle ● Establish relationship between K p and K c ● Define acids and bases according to the theories given ● Distinguish between strong and weak electrolytes	 **Practical:** Find out the concentration of NaOH by using 1M hydrochloric acid Application of Le chatelier's principle in the commercial method of preparation of ammonia. Create mind map for types of ionic equilibrium	
	The p-block elements ● General trends ● Physical and chemical properties ● Anomalous behaviour of carbon **Group-15 elements (class XII)** ● electronic	**Each student will be able to** ● Appreciate the general trends in the chemistry of p-block elements ● Describe the trends in the physical and chemical properties of group 13 and 14 elements ● List the important uses of group 13 and 14 elements and their		

	configuration,IE.metall ic nature ● Oxidation States ● Mp/bp	compounds ● Reason for variation in physical properties of p-block elements. ● Outline the steps of method of preparation of HNO3,NH3		
Computer Science	**Unit : Society, Law and Ethics (SLE-1) - Cyber Safety** ● Cyber safety: safely browsing the web, identity protection, confidentiality, social networks ● Security Methods: VPN, incognito browsing ● cyber trolls and bullying ● Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules. ● Safely accessing web sites: adware, malware, viruses, Trojans ● Safely communicating data: secure connections,	**Students will be able to:** ●Define Cyber Security ●Define various malware and their terms ●Differentiate between virus,worms,Trojan horses ●Understand two point authentication system. ●Implement secure connections ●Define eavesdropping ,phishing and Identity verification.	**Learning activity :** ● Surf internet and research about the cyber attacks performed of following types: ●Botnet ●Data breach ●Phishing ●DDos Attacks ●Mobile Banking Trojans ●Open WiFI ●Phishing ●Ransomware ●Spyware	I Assignments I Class Tests Discussion in the class

	eavesdropping, phishing and identity verification			
Economics	Index Numbers Market Price equilibrium derivation of the price equilibrium and quantity exchanged in the market with both demand and supply.	**Each student will be able to** Identify 3 reasons for the need to find indices for economic growth and compare. Derive the price equilibrium and the quantity exchanged in the market with the given market conditions discuss the derivation of the changes in the equilibrium price and quantity under different market conditions.	Giving the different market situations with reference to changes in demand and supply, the students will make the diagrams and show the changes that occur correspondingly. 	Class test Worksheets Kahoot
Psychology	**Revision Ch.1-4**	Students will give sample papers and practice questions, enact role plays and use creative methods to explain learned concepts	• Group Discussion • Oral quiz	• Role play case based enactment • Written mock exam
Biology	**Animal Kingdom :** (Classes -5) • Criterias used for classification, • Classification of Animals upto phylum level	**Each student will be able to** • Explain the different features used as the basis of animal classification. • State the characteristics of different phyla and their	• Presentation of the specified portion of the topic. • List the main parameters used in classification of animals • One minute paper	• Draw the specified animal specimens in the file and write four characteristic feature of each • Google form for MCQs

examples.

JANUARY

Subject	Topics Covered & No. of Classes	Learning Outcome	Activities	Assessments
Mathematics	**CLASS XII** **Matrices**	**Each student will be able to** *identify a element of a matrix *apply the basic operations of + , * , - *define various types of matrices *solve the problem of equality of matrices. *define transpose of a matrix *define symmetric and skew symmetric matrices. *find the transpose of a matrix *differentiate between symmetric. and skew symmetric matrices. *define the inverse of a matrix. *find the inverse using transformation method.	Students will read specific topics from NCERT along with the solved examples at home that will help in further solving questions from Exercises. The whole class can be regarded as a matrix and students can identify the rows and columns. (EL).	● Through small tests in fundamentals. ● · Class Work. ● · Google Form
English	**ASL Activity**	**Each student will be able to** Listen to the audio carefully and answer	Audio file,Worksheet	Worksheet

	Flamingo: **The Last Lesson** **My Mother at Sixty Six** **By Kamala Das** **Reading Skill:** **Comprehension (Revision)**	the questions given in the worksheet. Speak fluently and effectively, on the topics given. Read the lesson with comprehension and clarity. List the themes in the lesson. Critically analyze the characters. Recite the poem appropriately. State the literary devices used. Analyze the meaning of the poem. Answer the questions appropriately and meaningfully.	Speaking Assessment. PPT on Colonialism and its effect on a country and its people. PPT on importance of one's mother tongue. Interview old and ailing people about the fears and insecurities in their life and the ways they battle them. Class discussion.	Oral Questions Assignment Worksheets
Physics	**Waves** · Transverse and longitudinal waves · Displacement relation in a progressive wave · Characteristics of a progressive wave · Factors on which speed of travelling wave depends · Speed of sound in air	· What is a wave? · Name different types of waves. · State properties of transverse and longitudinal waves · Differentiate between transverse and longitudinal waves. · What is a progressive wave? · Write expression for displacement of a progressive. · State characteristics of a progressive wave.	Case Study: **Musical Instruments** Do you know your African drums? What is the name for the end of a horn that projects the sound? From the theremin to the grand piano, get in tune to the musical instruments in this	· Assignment Sheet Google Form · Exit Ticket · Written responses on · whiteboard.fi

	· Laplace's correction · Numerical	· Name the factors on which speed of travelling wave depends. · Write an expression for speed of sound in air.	quiz. https://www.britannica.com/quiz/musical-instruments	

Chemistry	**P-block elements**
	      Group-16
	(class XII)
	● electronic configuration,IE.metallic Nature
	● Oxidation States ,Mp/bp
	      Group-17
	● electronic configuration
	● IE.metallic nature
	● Oxidation States
	● Mp/bp
		Each student will be able to
		● Reason for variation in physical properties of p-block elements.
		● Outline the steps of method of preparation of H_2SO_4 ,oxoacids of Sulphur
		● Draw structures of hydrides, oxides and oxoacids
		● Mention reactions and uses of important compounds of sulphur. Characterize important compounds of halides
		● Draw structures of oxides, fluorides and oxofluorides of Xenon
		● Predict if hydrolysis reactions of
			Discussion and Presentation by students
			(physical prop)(gr-16 by team1)(L,A)
			Imp chemical properties (team-2)(L,A)
			Questions discussion(L,A)
			Presentation by students(physical prop) (gr-17 by team3)(L,A) Imp chemical properties (team-4)
				● Short Quizzes
				● Turn-to-Your-Neighbour

	Group-18 ● electronic configuration ● IE.metallic Natrue ● Oxidation States ● Mp/bp	xenon fluoride are redox or not ● State at least two uses of noble gases		
Computer Science	**Class XII Topics:** **Data Management (DM-1)** ● Relational databases ● idea of a database and the need for it, ● Relations ● primary key ● foreign key; ● use SQL commands to create a table, keys, foreign keys ● insert/delete an entry, ● delete a table. ● SQL commands: ● select, project ● Where command ●Between, like, aggregate functions	**Each student will be able to** ●define databases ●define advantages of Database Management systems over Traditional File Based Systems. ● create tables, insert records and use SQL commands to perform queries	**Practical :** **Final project submission** **Learning Activity** •Create a database and insert records in it. •Perform queries according to the requirements •Perform queries based on the user requirements •Apply Aggregate functions and group the data according to the queries	● Databases created ● Queries performed ● Assignments ● Class tests ● Practical conducted ● CBSE Sample questions

Economics Class XII	Indian Economy on the Eve of Independence Five Year Plans	Each student will be able to	Talk to your Parents and Grandparents and gather information on the situation of Indian population during the British raj.	Worksheets Google forms
	Common Goals of Five Year Plans Meaning of Five Year Plans Objectives of Planning. Analysing the importance of Planning in development.

Features of Economic Policy under Planning till 1991.

Achievement of the Goals of planning f. Failures of Planning | Agriculture sector and industrial sector on the eve of independence with the help of concept mapping. Foreign trade, demographic conditions, Infrastructure, occupational structure on the eve of independence with the help of BALA, real life examples and storytelling methods. Good and bad impacts of British government on Indian Economy with the help of think pair and share method

The importance of planning in life-Individual as well as an economy To comprehend the meaning of planning by think pair and share method. Identify the goals of five year plan Analyze the importance of planning in development and the achievements as well as the failures of planning with concept mapping | Students will be asked to write positive and negative impacts of British Government on Indian Economy(L) .

Oral questions will be asked on meaning de-industrialization, Zamindari system ,Mahalwari system,Ryotwari system (AB)

Planning an activity in school | |
| **Psychology** | **Revision Ch.5-9** | **Each student will be able to**

● Define concepts articulately
● Conceptualize understanding of topics through group discussions | ● Quiz
● Group presentation | ● Presentation
● Written mock examination |

		and in written format ●		
Biology	**CLASS XII TOPIC Reproduction in Organisms** ● Life span ● Pre Fertilization events ● Fertilization ● Post fertilization Events	**Each student will be able to** ● Realize the the term Lifespan and its variation among different organisms ● Enumerate Pre fertilization steps ● Fertilization Steps ● Post fertilization. ● List the end products of fertilization each in plants and animals.	Make a concept map of the topic. List 10 vocabulary words from the topic.	● Short class test. ● Brainstorming ● Live quizz ● File assessment. ● Short Test
FEBRUARY & MARCH				
Subject	**Topics Covered & No. of Classes**	**Learning Outcome**	**Activities**	**Assessments**
Mathematics	Determinants	**Each student will be able to** *define determinants *list the properties of determinants. *apply the properties of determinants in solving questions.	Students will read specific topics from NCERT along with the solved examples at home that will help in further solving questions from Exercises.	● Class Work. ● Oral Questions. ● HW given from NCERT (uploaded in

		*define adjoint and inverse of a matrix. *calculate the area of the *calculate the inverse of a matrix *solve the given system of equations upto three variables REVISION FOR ANNUAL EXAMINATION		Google Classroom)
English	Revision	Revision for Annual Examination.	Test	Test
Physics	**Electrostatics** · Electric Charges · Conductors and Insulators · Charging · Coulomb's Law · Electric field · Gauss's Law · Electrostatic energy · Electric potential · Capacitors Dielectrics	**Each student will be able to** · Write the properties of charges. · Explain quantization of charges. · List and explain two methods of charging. · Differentiate between insulators, conductors and dielectrics. · State coulomb's law and express it mathematically. · Establish a relation between force and electric field. · Draw electric lines of forces due to a positive, negative and combination of charges. · Mathematically express electric	**Hands-on Experiential** Students will try to charge a metal scale and then metal with a plastic handle. **Technology Integration** **Discussion on conduction, induction, polarization using PhET simulation :https://phet.colorado.edu/en/ simulation/john-travoltage**	Assignment Sheet Google Form · Exit Ticket · Written responses on · whiteboard.fi

		potential. · Establish a relation between electric field and electric potential. · Draw the equipotential surface due to different system of charges · Derive the expression for electric field, potential and energy due to a system of charges Revision for Annual Examination in March.		
Chemistry	REVISION FOR ANNUAL EXAMINATION			
Computer Science	Revision for Annual Examinations			
Economics		REVISION FOR ANNUAL EXAMINATION		
Psychology	Practicals Revision	Students will be able to : ● Administer and answer practical related questions	● Viva voice practice ● Short mock demo administration	● Mock administration ● Individual and group viva sessions
Biology	REVISION FOR ANNUAL EXAMINATION			