TAGORE INTERNATIONAL SCHOOL
VASANT VIHAR, NEW DELHI
PARENTS SYLLABUS (2020-21)
CLASS XI C & D
JULY-SEPT.

Subject	No. of Period/ Topic/s	Learning outcome	Activities	Assessments
		JULY		
Math	**Ch 2 : RELATIONS AND FUNCTIONS (12 classes)**	**Each child 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.	Newspaper (Graphs) 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 2^{pq}, where n(A)= p and n(B)=q (ACTIVITY)	• Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). • Oral Questions • Google Form • KWL Chart • Quiz

	Ch 3 : TRIGONOMETRIC FUNCTIONS (7 classes)	*acquire knowledge of composition of functions. * solve questions based on the concept of composite functions. **Each child will be able to** *recall the relation between degree and 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 angles. *state the C/D and product formulae. *state the half angle formulae.	A video on the Indian Dance form Bharatnatyam depicting the graphs of various functions in different postures of this dance form. (AIL) To distinguish between a relation and function.(ACTIVITY) 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 ? To plot graphs of sinx, sin2x, 2sinx and sinx/2 (ACTIVITY)	● Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). ● Oral Questions. ● Google Form ● Short Test.
English	1. Poem-The Laburnum Top (Hornbill)	Each student will be able to: Grasp the theme, poetic devices, literal /	Observe a tall tree and document your thoughts on it in the form of a diary entry.	Class work and Homework given from NCERT and

	(Classes- 3) Writing Skills: Letter Writing i) Letter of enquiry ii)Order placement iii)Order cancellation iv)Letters to school authorities regarding: admission -courses -school issues v) job application with resume ((Deleted from the syllabus will	connotative meanings. Read the poem with proper rhyme and tone. Understand the symbiotic relationship between man and nature Each student will be able to draft meaningful letters.	**Art Integrated Activity-** Make a sketch of a park. Revision of the format, discussion of the purpose and significance of writing letters. Discussion of the old and new means of communication. Students will go through the following speeches- MLK Jr's *I Have A Dream* Nehru's *Tryst with Destiny* Malala Yusuf and Obama's speeches	Assignment(uploaded in Google Classroom). Oral Questions Oral discussion Worksheet HAM/JAM sessions Worksheet Oral Discussion

	not be assessed) ASL- Speaking Skills (2 classes) Notice Writing (1 class) Advanced Reading Skills: Note making and summary writing (2 classes) Grammar- Determiners Jumbled words (2 classes)	Each student will be able to freely express their views on given topics of discussion Each student will be able to- -create social awareness. -retain information of events or incidents and describe the same. Each student will be able to convert long passages into concise notes and summary for enhanced reading comprehension. Each student will be able to make meaningful, grammatically correct sentences.	Practice Questions Discussion on the need to make notes. Practice exercises	Worksheet Oral Discussion Worksheet

Psychology	No. of periods: 5 **Unit 2** METHODS OF ENQUIRY IN PSYCHOLOGY (Remaining portion) No. of periods: 17 **Unit 3** THE BASES OF HUMAN BEHAVIOR	Each student will be able to: ● Diff. btw and quantitative and qualitative method Each student will be able to: ● Relate the functions of nervous system and endocrine system to behavior ● Explain the role of genetic factors in determining behavior ● Discuss the role of culture in shaping human behavior ● Diff. btw enculturation and acculturation	● Do a case study on one of your parents. Get details from their life events and prepare a report. ● Activity 3.1 from NCERT ● Talk to students belonging to different States regarding their food, festivals, dress, customs, etc. Prepare a list of the differences and similarities **Art Integration:** ● Clay modelling - draw the structure of brain using clay and use flags to label its various parts	● Progressive worksheet after completion of each topic ● Oral Testing ● Assignment on google classroom

Physics July (16)	**Motion in a plane (4)** Relative velocity (1) Projectile motion (2) Uniform circular motion (1)	**Each learner will be able to** • Vectorially depict relative velocity • explain projectile motion. • Derive the expression for the height attains and the range of a projectile • Find expression for force, acceleration and velocity of object in circular motion	· Students will find out about the various games in which the concept of projectile is used. · Students will do a survey and prepare a report on the levels of elevation of flyovers in Delhi. · Worksheet (A) · Assignment Sheet (A)	One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given.
	Laws of motion (12) · Newton's laws of motion (5) · Equilibrium of a particle (3) · Friction (2) · circular motion (2)	**Each learner will be able to** • State three equations of motion. • Write equations 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.	Worksheet • Assignment Sheet • Project work on use of friction in daily life • Project work on use of Banking of tracks. ● Take a white sheet of paper make any figure on this. Now put some oil on the paper and try to make same figure again. List your observations. Try to explain your observation.	One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given.

Chemistry	• Molarity, molality and mole fraction (1) • Stoichiometry(2) **Unit-2** **Structure of atom (13)** • Developments leading to bohrs' model. • Electromagnetic radiations and their properties (1) • Photoelectric effect and Planck's law (1) • Bohr's • Model of atom (1) • Hydrogen spectra and wavelength (2) • Absorption and emission spectrum(2) • Heisenberg uncertainty principle • De Broglie relation (2) • Orbital concept of atoms • Quantum no's and	**Each child will be able to:** 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. Establish quantitative relationship between masses of chemical reactants and products in a balanced chemical equation **Each child 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. •Solve Numericals on the basis of law. •Analyze Bohr's model with the dual nature of light. •Calculate wavelength of radiation for H-atom using Ballmer's formula •Solve numerical to calculate the uncertainty principle. •Enlist the significance of De Broglie and Heisenberg's principle in day to day life. •Differentiate between orbit and orbital •Assign quantum nos to an electron in a	**Practical:** crystal formation from rock salt available at home. **PRACTICAL** SALT ANALYSIS ANIONS -olabs simulation **ART INTEGRATION** 1.Images of spectrum through different objects and denoting their wavelength. 2.A comic strip showing the filling of electrons in s,p,d and f orbitals/ developments in the structure of atom	Worksheet - numericals Google form- entry ticket Picture prompt Worksheets Assignments . Class test. Questions from exemplar

	significance(2) ● Electronic configuration ● Principles governing filling of electrons in orbitals (2)	shell. •Outline the significance of quantum nos. •Represent electronic configuration in terms of orbitals using principles of filling orbitals		
Comp. Sc.	**Flow of Control** ● For Loop ● While Loop ● Jump Statements	**Students will be able to:** ●Execute iterative statements ●Work with for loop ●Work with while loop ●Perform dry run on looping constructs	Write programs/applications to: Calculate factorial Printing Patterns Case Study : Calculating compound interest without using formulas **Art Integration Activity:** Poem Writing: The students will pen down a poem to describe the relevance of loops in a programming language.	Assignments, Google forms, MCQs, short quiz, Class tests **Rubrics for Art Integration Activity:** ● Creativity ● Originality ● Relevance to the topic ● Submission in time
Economics	**Introduction to Statistics** **Collection of Data** **Diagrammatic and graphic**	Differentiate between Economic and Non-Economic activities. ● Each student will be able to ● Discuss functions and importance of statistics. Draft a Questionnaire ● Organize data in the form of individual series and Frequency series	Collection of data given the present day scenario. <u>*Practice activities:*</u> Mind map, group discussion, Brainstorming activities, Application based case studies on data collection will be given	Class test Worksheets Google form

	presentation of Data **Law of demand** **Movements and shifts in demand curve.** **Elasticity of Demand**	• Present the data in diagrammatic and Graphic presentation. • Identify the concept of Demand • Analyze the factors affecting Demand. • Represent the movements and Shifts in demand curve diagrammatically • Analyze the factors affecting demand • Interpret the theory related to the calculations of demand to practice by doing the numericals.	and students will decide on the methods and type of data they will use. Data collection and classifying data with reference to covid and representing data through graphs. *Art Integration:* pie charts showing heads on which expenditure was incurred for a certain topic *Experiential Learning:* https://mrstoxqui-economics.weebly.com/classworkhomework2.html activity worksheet to state the law. Differentiate between movement and shift. *Application activities:* Survey about the shift in demand of certain products keeping in mind the COVID	Class test Worksheets Google form

			situation. *Art Integration:* CP Econ Chapter 3 Demand Worksheet Flashcards/ Quizlet Demand for Warli art or Madhubani art in urban centers has led to the art form evolving newer, more diverse styles and varieties *Experiential Learning:* https://www.youtube.com/watch?v=mvQze0vJgAg	
AUGUST				
Math	**Ch 3 : TRIGONOMETRIC FUNCTIONS (contd) (10 Classes)** ***Trigonometric Equations ((Will not be assessed)**	**Each child will be able to** *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 principle solutions. *solve the given trigonometric equations.	A PPT on Jantar Mantar and the use of Trigonometry in the working of its instruments.(AIL)	

	Ch 13 : LIMITS AND DERIVATIVES (6 classes)	**Each child will be able to** * explain the approaching concept on the number line. *define 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. .	Relate the concept of derivatives to other branches of science and Economics.	● Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). ● Oral Questions. ● Google Form ● Short Test.
English	Prose – Albert Einstein at School SNAPSHOTS (5 classes)	Each child will be able to receive and process the different models of instruction	Present speeches on - the ideal student - the ideal teacher - the ideal education system Collate and document information focusing on the	Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). Oral Questions

	Writing Skills: Report (Deleted from the syllabus will not be assessed) (2 classes) Prose – The Address (Marga Minco) SNAPSHOTS (5 classes) The Voice of the Rain Hornbill (3 classes)	Each student will be able to- retain data and information. organise ideas on a particular subject. write precisely. Each student will be able to - Imbibe values like courage, empathy, critical thinking and maintaining relationships Learn about the holocaust Identify links with Anne Frank's autobiography Read and analyze the lesson, identify its relevance to modern life	changes undergone by the education system over the years by interviewing your elderlies. (group work) Collect newspaper reports and re-write them in your own words. Movie watching-The Boy in the Striped Pyjamas Extended reading -The Diary of a Young Girl – Anne Frank ART INTEGRATION ACTIVITY- Compose a poem on the futility of war.	Worksheet Class discussion Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom) Oral Questions Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom) Oral Questions

		Each student will be able to- comprehend the theme of the poem and identify the poetic devices employed. understand the significance of rain water.	Describe water cycle. List out similarities between rain and music.	
Psychology	No. of periods: 15 periods **Unit 4** HUMAN DEVELOPMENT	Each student will be able to: ● Describe the meaning and process of development ● Explain the influence of heredity, environment and context on human development ● Identify the stages of development and describe the major characteristics of infancy, childhood, adolescence, adulthood and old age	● Interview people from three different stages of life (within your family) for example, 20-35, 35-60 and over 60 years of age. Talk to them about: a. Major transitions that have taken place in their lives. b. How do they feel these transitions have affected them? Compare the events considered important in different groups. ● Develop a script from a preoperational (4-7 years old) child's point of view for playing with friends. Develop the same script for an adolescent. How do	● Progressive worksheet after completion of each topic ● Oral testing ● Assignment on google classroom ● Quiz

	No. of periods: 5 periods **Unit 5** SENSORY ATTENTIONAL AND PERCEPTUAL PROCESSES	Each student will be able to: ● Explain the nature of sensory processes ● Name diff. types of attention	these scenarios differ? How are roles played by your friends different? **Art Integration:** ● Make toys from material available at home, for infants, keeping in mind their sensory motor development	● Oral testing ● Worksheet
Biology	● Respiration in Plants (6-7 classes)	Each child will able to : ● Explain the importance of respiration in plants. ● Describe various modes of respiration and respiratory quotient in determining the nature of substrate used. ● State alternative mechanism of respiration in plants. ● Make a flow chart of glycolysis	● https://www.youtube.com/watch?v=Fcu_8URp4Ac --- basics of respiration ● https://www.youtube.com/watch?v=zHk4cRjIGHA --- electron transport in respiration ● https://www.youtube.	● Assignment on google docs. ● MCQ using google forms. ● Making concept maps ● Class test online. ● Class discussion

		and TCA cycle. ● Explain the components of ETS & its significance. ● Describe PPP and its mechanism	com/watch?v=ncEHa-ZwX3M –cellular respiration ● Based on the video links & the subtopics specified in the NCERT ● **Students activity** will prepare questionnaires on assigned Glycolysis, krebs cycle & exchange them to answer them. **Subject integration**-(Physics)Do respiration in plants show entropy & enthalpy? Discuss .	
	Plant growth & Development Growth regulators only (3-4 Classes)	● Each child will be able to- ● List Growth Regulators in plants. ● Name the scientist who discovered the growth regulators. ● List important functions of each for plant growth & development	PPT on Plant Growth Regulators. AIL- Poem on any one of the PGR,s	● Class interaction ● Google form Rubrics for AIL- ● Content relevance ● Poetic expression ● Presentation & ● Punctuality.

Physics (16)	**Laws of motion (2)** · Banking of tracks (2) **Work-energy power (14)** Work energy theorem (2) Work (1) Kinetic energy (1) Work done by variable force (2) Potential energy (2) Power (1) Collisions (3) Numercials (2)	**Each learner will be able to** • Write applications of banking of roads • explain banking of roads • Deduce the expression for the safest velocity **Each learner will be able to** • 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 • define coefficient of restitution • differentiate elastic and inelastic collision • list examples of elastic and inelastic collision.	● List muddy points of the topic. ● Class discussion on muddy points. ● Complete the activity sheet on location /function . ● **<u>Research project</u>** ● Collect information about different types of energy. ● Draw a graph of potential energy with distance. ● Make a concept map on forms of energy. Students will find out about the various games in which concept of projectile is used. · Students will do a survey and prepare a report on the levels of elevation of flyovers in Delhi. · Project work on use of friction in daily life • Project work on use of Banking of tracks.	One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given. One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given. Student will find vector product of two vectors using paper thread method. · Students will search on internet to find use of vector product in daily life, if any. · Reasoning Questions would be asked · Numerical solving · Student will make presentation on application of theorems of moment of inertia.

				· Worksheet (A) · Assignment Sheet (A) · Reasoning Questions would be asked · Students will find out about the various games based on principle of moments (E) · Worksheet (A) · Assignment Sheet (A) · Reasoning questions would be asked · Students will find out about the various games based on Universal law of gravitation. (E)

Chemistry	**S-block elements (6)** ● Introduction and General electronic configuration (1) ● Group trends ● Atomic size, ionic size, ionisation enthalpy, ● Electron affinity ● metallic character (1) ● Flame coloration(1) ● Chemical properties ● Reaction with H2,,O2,X2,NH3,HX (1) ● Compounds of alkali metals and alkaline earth metals. ● Diagonal relationship(1) **Unit 8** **Redox reactions(5)** ● Oxidation ● Reduction ● Electronic Concept of redox reaction (2) ● Oxidation Number (1) ● Types of reactions in terms of redox (2) **** electrochemistry**	**Each child 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 alkali metal groups. •Discuss the uses of industrially important compounds of sodium and calcium •Predict the products and nature of compounds formed. •Define diagonal relationship **Each child 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	· **AIL** SONG ON S BLOCK ELEMENTS · Create a graphic organiser of redox reactions . ·	● Assignment on google docs. ● MCQ using google forms. ● Class test online.

		reaction. Classify redox reaction into combination,decomposition,displacement and disproportionate reaction		
Comp. Sc.	**Error Handling and Debugging** ● Errors in a program ● Types of Errors **Boolean Algebra** ● Binary Value Quantities ● Basic Logic Gates ● Basic Postulates of Boolean Logic ● Principle of Duality ● Basic Theorems of Boolean Algebra ● DeMorgan's Theorems ● More Logic Gates	**Students will be able to:** ●Write pseudo codes. ●Debug their applications **Students will be able to:** ●Create truth tables for logic gates ●Create advanced Boolean expression Truth Tables	Test programs with dummy data ,debug and interpret the outputs The students will be creating Truth table for half adder and finding what type of gate will be used for the same. **Art Integration:** Drawing various logic circuits using a combination of different logic gates. The students will then create some patterns using logic gates.	Google Forms, Google quiz, assignments in google classroom Truth Tables created, Google quiz, google forms, assignments in google classroom **Rubrics for Art Integration Activity:** ● Creativity and Originality ● Types of circuits used ● Patterns created ● Submission in time
Economics	Measures of Dispersion Standard Deviation	Each student will be able to ● Calculate dispersion methods of dispersion. ● Understand and be able to calculate the deviation of specific	*Application activities:* Students will be asked to do an activity online using playing cards.	Class test Worksheets Google form

		data point. ● Understand how to calculate the variance of variable	To identify the steps involved in calculating the measures of dispersion.. To identify the different kinds of series. *Practice activities:* Numericals on measures of dispersion. *Experiential Learning:* Collection of Data and calculation through the measures of dispersion	Periodic Test 1
SEPTEMBER				
Math	**Ch 13 : LIMITS AND DERIVATIVES (contd) (11 classes)**	**Each child will be able to** *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	To verify the geometrical interpretation of Derivatives. (ACTIVITY)	

	Ch 6: LINEAR INEQUALITIES (7 Classes)	rule, quotient rule and product Rule. *apply the above learnt concepts in differentiating various functions **Each child will be able to** *recall the concept of linear equations *define a linear inequality. *list the rules of solving a linear 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 Graphical method.	Explore about Real world Inequalities. 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)	● Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). ● Oral Questions ● Google Form ● Quiz
English	Prose – The Ailing Planet HORNBILL (5 classes)	Each student will be able to- comprehend the issues faced by Mother Earth. use resources effectively. develop the idea of sharing and caring.	Best out of waste activity Art Integration Activity Slogan writing on « Go Green »	Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). Oral Questions

	Writing Skills- Poster (1 class) ASL- LISTENING SKILLS (2 CLASSES) Discovering Tut… Hornbill (4 classes) Grammar- Voice (1 class) (Deleted from the syllabus will not be assessed)	learn to assess and analyse situations. Each student will be able to- link ideas to illustration. express effectively and precisely. Each student will be able to- understand the significance of paying attention to details while listening to a speaker. Each student will be able to talk about the details of the boyish Pharaoh-Tutankhamen, his mysterious death and forensic reconstruction. Each student will be able to form grammatically sound sentences.	Art Integration Activity- Draft a poster on “Prevent Female Foeticide”. Listening skills worksheets Draw a flowchart of King Tut’s family line.	Worksheet Worksheet Class work and Homework given from NCERT and Assignment(uploaded in Google Classroom). Oral Questions Worksheet Class work and Homework given from NCERT and Assignment(uploaded in

	Ranga's Marriage Snapshots (3 classes)	Each student will be able to strike a balance between traditional and Western ideas and that traditions are deep-rooted in our culture.	Practice exercise Discussion about the significance of Indian traditions and one's mother tongue.	Google Classroom). Oral Questions
Psychology	No. of periods: 16 periods **Unit 5 (contiued...)** SENSORY ATTENTIONAL AND PERCEPTUAL PROCESSES	Each student will be able to: ● Analyse the problems of form and space perception ● Discuss the role of socio-cultural factors in perception ● Define Illusion	● Collect ten advertisements from magazines. Analyse the content and message being conveyed in each advertisement. Comment on the use of various attentional and perceptual factors to promote the given product **Art Integration:** ● **Magic show :** Conduct a magic show to demonstrate illusion	● worksheet ● Quiz ● Oral testing ● Assignment

Biology	**Body Fluids and Circulation -** (6-7 classes) **Excretory Products and their Elimination-** **(**6-7 classes)	Each student will be able to : ● Enumerate the process of circulation of body fluids in cockroach, humans and other organisms. ● Differentiate open and closed systems. ● State human blood and its functions. ● Draw and explain the human heart, its structure and function. ● Enlist the function of the lymphatic system. ● State the use of ECG and pacemaker. ● Enlist the disorders related to the circulatory system. Each child will be able to- ● Explain the terms osmoregulation & homeostasis. ● Classify the organisms on the basis of main excretory waste eliminated.	http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/C/Cirluation Working of human heart Sub topics from NCERT & the above link will enable students to answer the questions based on- 1.Campare open & closed circulatory system 2.Make a graphic organizer on components of Leucocytes. 3.Expalin the conducting system of human heart 4. Relate working of human heat to the conducting system 5.Specify main functions of the lymphatic system. 6. Explain the cardiac events using ECG. 7. Draw the internal structure of the human heart to show the conducting system. **Practical activity-Study the composition of blood using Olab link.** **https://www.youtube.com/watch?v=6HJfr00ClqM- urine formation** **https://www.youtube.com/wa**	● Class interaction-oral or written ● Short test ● Google form ● Assignment Google docs Class interaction as reflection on the concept taught. Google form Google doc having assignment question.

		• Name the excretory organs of Flatworms,earthworm & insects. • Explain the structure of the excretory system in humans. • Draw the structure of nephron & explain the mechanism of urine formation • Explain role of counter current mechanism in urine formation • Explain the various autoregulatory processes for regulating GFR. • List & briefly discuss disorders related to the system.	tch?v=Xbl8eY-BeXY- **countercurrent multiplier.** **Project Work-** Identify the food items(any 5) consumed in your home causing diuresis.	.

Physics	**Systems of particles and rotational motion (8)** Centre of mass (1) Motion of Centre of mass (1) Vector product of two vectors (1) Angular velocity and linear velocity (1 Torque and angular momentum (1) Equilibrium of a rigid body (1) Moment of inertia (2) Dynamics of rotational motion about a fixed axis (1) Rolling motion (2)	**Each learner will be able to** · Find centre of mass of two and n particle systems · Expression for velocity, acceleration and force acting on the center of mass. · Draw interpretation of motion of center of mass. · Find 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. · Solve numerical based on it · Write condition of equilibrium of a rigid body. · Solve numerical based on it	● **<u>Research project</u>** ● Collect information about different types of motion. ● Draw a graph of moment with distance. ● State relation between torque and angular momentum. ● Make a concept map on rotational motion. ● Take two water bottle one half filled with water and another completely filled with water. Roll them on force 3 times record your observation and explain the behaviour using internet.	One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given.
	Gravitation (8) Universal law of gravitation (1) Acceleration due to gravity and its variation (1)) Gravitational potential energy (2) Escape speed (2) Earth satellite (2)	**Each learner will be able to** · Sate Universal law of gravitation. · Find force between two objects · Find expression for acceleration due to gravity. · Find expression for gravitational potential and gravitational energy. · Solve numerical based on gravitational potential energy. · Find expression for escape speed from surface of earth.	● **<u>Research project</u>** ● Draw a graph of force with distance. ● State relation between escape velocity and density of planet ● Take a water bottle hang it from a rigid place using a thread now give a push to left wards and note time of	One assignment on google classroom and another on google forms Also 2 worksheets and one assignment will be given.

		· Solve numerical based on escape speed. · Name type of satellites. · Find expression for orbital velocity of a satellite	thirty oscillations. Repeat it there times. List your observations . Find suitable explanation for it using internet.	
Chemistry	**Unit 8** **Redox reactions(7)** ● Balancing Ionic Equations(3) ● ****Electrochemical cell**s ● Construction and Working(2) ● Electrode potential ● Electrochemical series (2)	**Each child 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 reactions in terms of electrode processes •Set up an electrochemical cell and describe its working •Solve Numericals related to	**PRACTICALS** O LABS -- SIMULATION - SALT ANALYSIS **Experiential learning/AIL** set up of electrochemical cells./ study the inverter battery and prepare a report.	Assignment as google docs Google form Worksheet Class interactions.

	Unit 4 **Chemical Bonding and Molecular structure(5)** ● Octet rule and its limitations.(1) ● Lewis-Dot structures formation of ionic compounds by electron transfer (2) ● Conditions for ionic bond formation. ● Formal Charge (1) ● Polarity and dipole moment(1)	electrochemical series. •Calculate the electrode potential of a cell. **Each child 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.	**Art integrated** Role play to show the formation of bonds **Making of molecular structures** from materials available at home.	
Comp. Sc.	**String Manipulations** ● Traversing a string ● String Slicing ● String Operators ● String Functions	**Students will be able to:** ●Work with strings. ●Implement built in functions from python string library	The students will create programs based on string manipulation and operators. **Art Integration Activity:** A cover page for their program file to be submitted for half yearly assessment. This page will be based on the Python Concepts studied so far.	Practicals and programs done for the file, google docs, forms, quiz, class tests **Rubrics for Art Integration Activity:** ● Creativity and Originality ● Submission in time

Economics	**Production function** **Cost and Revenue**	Each student will be able to ● Define cost and revenue. ● Discuss the different types of costs and revenues. ● Calculate the different costs and revenue applying the formulae. ● Numericals	*Application activities:* Individual research Group discussion based on topics related to cost and revenue.. For example, Reliance Fresh has announced the slashed prices. *Practice activities:* Discussion on its impact on the cost and revenue. Survey to be conducted by students to assess the cost and revenue. Web Charts *Art Integration:* *Art Integration:* Take an old tshirt/jeans/skirt and create something new by using cuttings of any traditional art based clothing(madhubani/kalamkari/ kantha stitch etc.) Work out the Cost and revenue in the art form that you have used.	Class test Worksheets Google form Half Yearly

			Experiential Learning: https://www.youtube.com/watch?v=rCNybo7FT2I	